DOCUMENT RESUME

ED 144 570 IR 005 170

TITLE	Implications of the Alaska Education Satellite Communications Demonstration for Technological and Educational Policymakers. First Annual Report. Volume I: Analysis of the Demonstration.
INSTITUTION	Practical Concepts, Inc., Washington, D.C.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	Nov 75
CONTRACT	NIE-C-74-0148
NOTE	310p.; For related documents, see IR 002 691-694 and IR 005 171-172
AVAILABLE FROM	Practical Concepts, Inc., 1730 Rhode Island Avenue, N.W., Suite 200, Washington, D.C. 20036 ($20.00 & postage)
EDRS PRICE	MF-$0.83 HC-$16.73 Plus Postage.
DESCRIPTORS	*Communication Satellites; *Demonstration Programs; Educational Finance; *Educational Policy; *Educational Television; Federal Programs; Financial Policy; Policy Formation; *Program Evaluation; Programing (Broadcast); Rural Education; Rural Population; Telecommunication; *Use Studies
IDENTIFIERS	Alaska; Applications Technology Satellite 6; *Educational Satellite Communication Demonstration

ABSTRACT

The Educational Satellite Communications Demonstration (ESCD) is described from two perspectives: primarily, as a guide for future investment in satellite television based on user reaction to the technology; and secondarily, as a guide for future investment in demonstrations in general based on ESCD's planning, funding, and management. Two major questions are addressed: (1) What does the ESCD experience suggest in terms of telecommunication policy, educational policy and programming, and roles and responsibilities of Alaskan village and regional organizations? (2) From the perspective of federal sponsors, is there a course of action that can benefit both Alaskans and educational research? Recommendations for the future derived from user reaction to ESCD are organized around three questions: (1) Does satellite television fit the requirements of rural Alaskans? (2) Can control of the rural media systems be delivered to villages? (3) What lessons have been learned about programming? Explicit recommendations were: (1) ESCD was not worthwhile; (2) villages should control planning and investment; (3) satellite is but one of several ways of providing telecommunications coverage; and (4) NIE should not fund further demonstrations using ATS-6, rather, it should focus investment on secondary school education, tape as well as real-time video, and village or regional control over all plans and investments. (DAG)

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IMPLICATIONS OF THE ALASKA EDUCATION SATELLITE COMMUNICATIONS DEMONSTRATION FOR TECHNOLOGICAL AND EDUCATIONAL POLICYMAKERS

First Annual Report

VOLUME I: ANALYSIS OF THE DEMONSTRATION

Prepared for:

National Institute of Education
Department of Health, Education
and Welfare
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Under Contract #NIE-C-74-0148

November 1975

IR005 170

PREFACE

This report is submitted to the National Institute of Education in accordance with the requirements of Contract NIE-C-74-0148 by Practical Concepts Incorporated (PCI).

This report presents the findings and conclusions based upon PCI's assessment of the education satellite communications demonstration (ESCD) in Alaska during the period from July 1, 1974 through September 30, 1975. It is submitted in accordance with that contract to meet the requirements for a first annual report, as well as the requirements for the 6th bi-monthly report.

We at PCI wish to acknowledge the efforts of both our own team--Roger Popper, Molly Hageboeck, Leon Rosenberg, Albert Feiner and Helen Savage--and the efforts of our subcontractor, the Center for Northern Educational Research of the University of Alaska--particularly Katherine Hecht, James Orvik and Theda Sue Pittman. We also wish to acknowledge the most important contributions that have been made by this study by the Consumer Committees, Utilization Aides and people of the villages of Alaska involved in this demonstration:

- Allakaket
- Angoon
- Aniak
- Chuathbaluk
- Craig
- Galena
- McGrath
- Minto
- Nenana
- Nikolai
- Petersburg
- Sleetmute
- Tanana
- Valdez
- Yakutat

The subject matter of this report is of national and even international importance. Therefore in the process of preparing this report, we submitted portions of it to interested individuals and organizations, soliciting their comments. Unfortunately, very few of those comments have been received in time for inclusion in this first annual report.

PCI would like to have an open dialogue regarding the issues and facts presented in this report and welcome comments from interested individuals or organizations. We are also interested in hearing from individuals who can recommend low-cost mechanisms for content analysis of the existing data.

Responsible comments received before May of calendar 1976 will be either considered or included verbatim in our final report under this contract, scheduled for completion in July, 1976. Please address such comments directly to the attention of the President of PCI, Mr. Leon J. Rosenberg or to the study manager, Ms. Molly Hageboeck, Practical Concepts Incorporated, 1730 Rhode Island Avenue, N.W., Suite 200, Washington, D. C. 20036.

TABLE OF CONTENTS

TABLE OF CONTENTS

PAGE

I. INTRODUCTION AND SUMMARY I-1

A. Introduction I-1

B. A Brief Description of ESCD/Alaska I-7

The Major Programming Efforts I-7
Special Technological Features I-10
Special Village Involvement Features I-14
Receiving Sites I-14
Grantees I-14

C. Three Pillar Questions I-17

D. Summary I-19

E. Implications for the Second Year of This Study . I-25

II. BACKGROUND DATA: DESCRIPTION OF THE DEMONSTRATION ENVIRONMENT IN ALASKA II-1

A. Characteristics of Alaska Which Directly Affect Telecommunications II-1

Geography II-1
Population Distribution II-1
Estimate of the Number of People Living In Isolated Towns and Villages of Less Than 1,000 Population II-3
Additional Communications Facts About Alaska . . II-5

B. Factors in Alaska Which Indirectly Affect Telecommunications II-12

The Alaska Pipeline II-13
The 1971 Native Claims Settlement Act II-14
Regionalization of Control of Social Services . . II-15
Rural Secondary Education II-16
A Constant in Rural Alaska: The Cross-Cultural Nature of Education in the Villages II-17
The Bilingual Education Movement II-18

TABLE OF CONTENTS (CONTINUED)

C. Communications Profiles of ESCD Sites II-19

  Media Services Available to All ESCD Sites . . . II-19
  Media Services Available to Some ESCD Sites . . . II-21
  A Progression of Communications Access II-22
  The Increment in Media Access Represented by ESCD/Alaska II-22

D. Profiles of ESCD Communities and Profiles of Schools at ESCD Sites II-25

  Profiles of ESCD Communities II-25
  Profiles of Schools at ESCD Sites II-25

Appendix A: Background Paper on An ESCD Village . . II-30

III. USER REACTION TO ESCD/ALASKA AND IMPLICATIONS FOR THE FUTURE III-1

A. ESCD/Alaska: An Exercise in Consumer Education . III-1

B. A Pyramid III-1

  1. The Base of the Pyramid III-2
  2. How Were the Comments Elicited? III-3
  3. Native Interviewers-Reporters III-3
  4. The Evaluation Conference III-4
  5. Discussion Questions III-4
  6. Relative Representation of ESCD Sites III-5
  7. The Information Base III-7
  8. The Sides of the Pyramid III-8
  9. The Apex of the Pyramid III-10

C. ESCD/Alaska Answers to Three Pillar Questions . . III-11

  1. What Requirements Do Rural Alaskans Place on a Television System? III-11
  2. How Can Control of Alaska's Rural Media be Delivered to Alaskan Villages? III-47
  3. Lessons Learned from ESCD Programming III-78

TABLE OF CONTENTS (CONTINUED)

D. Recommendations: The Apex of the Pyramid III-100

1. Satellite Television and The Requirements Rural Alaskans Place on Media Systems III-100
2. How Can Control of Alaskan Rural Media be Delivered to the Villages? III-108
3. Television Programming for Rural Alaska . . . III-112

IV. SOCIAL CHANGE IN RURAL ALASKA IV-1

A. Introduction IV-1

B. Topics for Discussion IV-1

1. Pipeline Impact on Alaskan Natives IV-2
2. The Alaska Native Claims Settlement Act . . . IV-6
3. The Trend Toward Regionalization of Control . IV-9
4. The Alaskan Bilingual Education Movement . . IV-11
5. Rural Secondary Education IV-20
6. The Context of Telecommunications IV-23
7. Additional Alaskan Experiments in Rural TV . IV-25

C. Conclusion IV-29

V. ESCD/ALASKA: AN EXERCISE IN INNOVATION INTRODUCTION V-1

A. The Need for An Organizing Framework V-2

B. An Innovation Introduction Model V-2

1. A Definition of Innovation V-2
2. The Model V-3

C. Classification of Issue Papers According to the Innovation Model V-5

D. Four Cautionary Notes V-6

TABLE OF CONTENTS (CONTINUED)

E. Aides to Reading the Issue Papers V-7

  1. Overview of ATS-6 Education Demonstration . . V-8
  2. List of Abbreviations V-18
  3. Partial List of Alaska ATS-6 Education Demonstration Staff and Other Alaskans Involved V-21

F. Selected Issue Papers and Descriptions of Topics for Future Study V-24

INNOVATION STAGE: AWARENESS--Non-Participant Knowledge About ESCD in Alaska V-24

INNOVATION STAGE: CONCEPT FORMULATION--The Relationship Between the ATS-1 and ATS-6 Education Demonstrations V-24

INNOVATION STAGE: CONCEPT REFINEMENT--Reactions in Alaska to Site Visits by NIE Teams V-25

INNOVATION STAGE: MOBILIZATION--Site Selection V-33

INNOVATION STAGE: DEMONSTRATION--Separation of Production and Design V-40

INNOVATION STAGE: DEMONSTRATION--Internal Evaluation V-45

INNOVATION STAGE: DEMONSTRATION--Theories and Hypotheses About Alaska Native Magazine Attendance V-50

INNOVATION STAGE: DEMONSTRATION--Management Problems V-58

INNOVATION STAGE: DEMONSTRATION--Interaction . . V-58

INNOVATION STAGE: DEMONSTRATION--The Role of Consumer Committees V-59

INNOVATION STAGE: DEMONSTRATION--Separation of ATS-6 Health and Education Demonstrations V-59

INNOVATION STAGE: OPERATIONS--The "Materials Distribution" Mode for Using Satellite Television V-60

INNOVATION STAGE: OPERATIONS--ESCD/Alaska Effect on Future Planning V-75

TABLE OF CONTENTS (CONTINUED)

INNOVATION STAGE: OPERATIONS--The Public Service Satellite Consortium V-75

INNOVATION STAGE: OPERATIONS--Future Use of ESCD/Alaska Ground Installations V-75

INNOVATION STAGE: OPERATIONS--The Effect of Demonstrations on Participating Organizations . . V-76

SECTION I

INTRODUCTION AND SUMMARY

A. INTRODUCTION

In October of 1974 transmission via satellite of educational television programs to sites in rural Alaska was begun, and in mid-May 1975, NASA's ATS-6 satellite was moved to India, ending transmission of programs to rural Alaska. The project was part of the Educational Satellite Communications Demonstration (ESCD) which took place under the auspices of the National Institute of Education (NIE). Concurrent with ESCD/Alaska, similar projects took place in the Appalachian and Rocky Mountains regions of the United States.

ATS-6 is the sixth in a series of satellites launched by NASA to conduct experiments and gather data, and allows transmission of color video and audio. The series of spacecraft, seven in all, are called the Applications Technology Satellites (ATS). Alaska's involvement with this program of experimental telecommunications satellites began in October, 1971 with education and medical projects run by the Indian Health Service, and the Alaska State Operated Schools System. These experiments, utilizing the voice-only capability of ATS-1, are still in progress.

Early in 1974, NIE decided that the self-evaluations to be undertaken by the program operators in the three participating regions should be supplemented by an overall evaluation--undertaken from the perspective of NIE, federal, and state policymakers. Recognizing both the potential importance of such evaluation, and the fact that as a practical matter most prior evaluation studies had had little impact on either practice or policy, NIE undertook a two phase procurement:

Phase I: Evaluation design contracts were let to three contractors* with the understanding that the contractor coming up with the best evaluation design would be selected for (Phase II) implementation;

Phase II: Implementation of the selected evaluation design.

Based on NIE evaluation of the five design study reports, NIE decided to let two contracts for evaluation implementation. The situation in Alaska was sufficiently different -- in terms of special difficulties in data gathering and Alaska's unique need for some alternative to conventional educational technology -- that the evaluation of the Alaska component was separated from evaluation of the other two sites. Therefore, in June 1974, NIE signed a contract with Practical Concepts Incorporated (PCI) to evaluate only the Alaska component of the ESCD. To improve PCI's base of operations in Alaska, PCI subcontracted with the Center for Northern Educational Research (CNER) at the University of Alaska. (NIE contracted with the Educational Policy Research Center [EPRC] at Syracuse University to evaluate ESCD impact in the Appalachian and the Rocky Mountain regions.)

This first annual report of a two-year evaluation period, presents the results of PCI's assessment of ESCD in Alaska. However, before proceeding with our discussion we feel it appropriate to point out that both the PCI evaluation efforts, and to a large extent the efforts of our colleagues at EPRC, have been greatly impeded by a flaw that is unfortunately shared by many programs of this type: To evaluate is to "assess the value of"--implying that there is a value system or at least a set of objectives against which program effect and impact can be assessed. In fact, the objectives of ESCD have never been made clear from either a national or local perspective. Thus, the program evaluators have been placed in the difficult position of having to not only assess progress, but also to establish the dimensions against which progress should be assessed.

---

* The other contractors were: Educational Policy Research Center of the Syracuse University Research Corporation and Battelle Memorial Institute, Columbus, Ohio.

This issue of the ambiguity of objectives, and a suggested strategy for adopting a truly federal perspective in evaluating the ESCD demonstration, is set forth in some detail in PCI's May 1974 design study report ("Design for an Analysis and Assessment of the Education Satellite Communications Demonstration"). However, during the course of negotiations, time and cost limitations, and the resulting decision to limit the degree to which the PCI evaluation study was aimed at affecting policy, this report can address only peripherally what could have been central issues of the evaluation:

(1) Changes in the institutions that participated in the demonstration;

(2) The degree to which federal sponsorship of such demonstration inhibits rather than promotes the type of innovation and experimentation that should be NIE's raison d'etre;

(3) Experience germane to less developed countries and others who have limited investment in conventional telecommunications (and hence for whom satellite links may be the primary communication infrastructure).

Focus of the First Annual Report

There are two basic functions that information generated by a demonstration can serve. The two functions are:

- Guide future investment in the demonstrated technology (for ESCD/Alaska the demonstrated technology is satellite television);
- Guide future investment in demonstrations in general, where the purpose is to introduce high technology to users.

The first function requires information which is technology-specific, such as: who benefits how from what uses of satellite television? The second function requires information about techniques for doing demonstrations so that information of the first type is cost-effectively generated.

The two ways of looking at ESCD/Alaska imply different emphases. The emphasis implied by viewing ESCD/Alaska as a guide for future investment in satellite television is on user reaction to the technology (see Section III). And the emphasis implied by viewing ESCD/Alaska as a guide for future investment in demonstrations in general is on ESCD/Alaska's planning, funding, and management (see Section V).

Both approaches to studying ESCD/Alaska are handled descriptively in this First Annual Report (see Sections III and V). However, the analytical emphasis is on user reaction to satellite television. Emphasis is on using ESCD/Alaska as a probe or litmus in advance of technological progress to find out how telecommunications should be used to benefit rural Alaskans. For reasons previously stated, relatively little attention is paid in this First Annual Report to the funding, planning, and management processes which resulted in ESCD/Alaska.

It is PCI's basic approach to evaluation that an evaluator's first objective must be to define the uses and users of the evaluation results. In our discussion with NIE on users and uses, we were told to assume that:

1. NIE would make no further investment in ESCD or even in further use of telecommunications for education;
2. Although the international implications of ESCD, in terms both of influencing decisions soon to be faced by international audiences as well as illuminating the basic NIE responsibility to the international community, were deemed to be of great importance, it was not considered within the scope of this evaluation to address this issue directly.

It seems that both of the assumptions, as of October 1975, are invalid. It appears that NIE will be spending additional money on telecommunications experiments in education, and it also appears that there has been a great deal of interest generated within the international community. Therefore, PCI determined, in consultation with NIE, that it would be appropriate to attempt to address these issues even though our data base was not developed with these issues in mind. An Executive Summary responding to these issues is thus forwarded as a separate supplement to this report.

Squarely addressed by this volume of the first annual report are the following questions:

1. What does the ESCD experience in Alaska suggest in terms of:
   - Telecommunications policy
   - Educational policy and programming
   - Roles and responsibility of Alaskan village and regional organizations.
2. From the standpoint of NIE and other federal sponsors of educational demonstration in Alaska, is there a course of action that can simultaneously benefit Alaskans and educational research?

Some of the specific issues, viewed from a time dimension that this report attempts to address that thus:

> Short-term: Can telecommunications solve local education and communications problems?
>
> Medium-term: Can telecommunications help Alaskan Native cultures accommodate to current realities without being destroyed?
>
> Long-term: Can rural Alaska's geographically disbursed populations develop means of cultural, social, and economic interchange that are divorced from the dependence on urban centers that characterizes western civilization?

Given Alaskan priorities can NIE, or the federal government generally, sponsor education and/or telecommunications experiments for which there will be important experimental value (learning about educational methodology) without compromising operational benefits to Alaskan villagers?

B. A BRIEF DESCRIPTION OF ESCD/ALASKA

Figure I-1 presents a summary description of ESCD/Alaska. There were four major programming efforts, six "special features", and fifteen receiving sites in rural Alaska. The information presented in Figure I-1 is elaborated on briefly in the paragraphs which follow. The purpose is not a thorough description of ESCD/Alaska's operations, but merely to provide sufficient background for understanding the body of the First Annual Report on ESCD/Alaska. (For a detailed description of ESCD/Alaska operations see the "ATS-6 Health/Education Telecommunication Experiment" final report by the Alaska Office of Telecommunications submitted to NIE in September, 1975).

THE MAJOR PROGRAMMING EFFORTS

The Basic Oral Language Development program was titled "Amy and the Astros." It was set inside a spaceship containing two astro children puppets and a robot puppet. An English speaking Alaskan woman (causasian) discovers the spacehsip, enters it, and teaches the astro children English. The program was aimed at 5-7 year old Alaskan Native children. One program was shown twice each week, totalling thirty-two programs.

The "Right On" health series was set in a typical village health aide's office, with a Native woman health aide giving advice and assistance to two animal puppets, a moose and a beaver. A germ puppet also played a prominent role in the programming. Each program centered on one specific health problem. The program was aimed at 8-10 year old rural Alaskan children. Two programs, one of them "off the shelf," were shown once each week, totalling sixty-four programs. See Table I-1 for list of "Right On" program topics.

FIGURE I-1

SUMMARY OF ESCD/ALASKA

4 MAJOR PROGRAMMING EFFORTS

Basic Oral Language Development (English for 5-7 year olds)
"Right On" (health for 8-10 year olds)
Alaska Native Magazine (public affairs for adults)
Teacher Training

SPECIAL FEATURES

Technological

Interaction
Inexpensive Receiving Equipment
Color Video
4 Language Channels

Village Involvement

Consumer Committees
Utilization Aides

15 RECEIVING SITES

GRANTEES

The Alaska Governor's Office of Telecommunications
Subcontracts: Northwest REgional Educational Research Laboratories
KUAC/TV, University of Alaska, Fairbanks

TABLE I-1

ALASKA ATS-6 HEALTH EDUCATION PROGRAM TOPICS

PROGRAM NO.*	TOPIC
1	General Health
3	Personal Hygiene and Health Habits
5	Eyes and Eye Care
7	Ears and Ear Care
9	Environment and Clothing
11	Frostbite and Cold Weather Hazards
13	Germs
15	Disease
17	Disease Control
19	Nutrition
21	Nutrition
23	Dental Health
25	Dental Health
27	Physical Fitness
29	Individual Differences
31	Family Life
33	Midway Review
35	Sources of Emotion
37	Emotional Expression
39	Medications
41	Alcohol
43	Changes
45	Arctic Survival
47	Community Life
49	Communication
51	Pollution and Sanitation
53	Accident Prevention
55	Recreational Safety
57	First Aid
59	Hospitalization
61	Health Careers
63	Review and Summary

---

* Odd numbered programs were those originally designed and produced for the Alaska project. Even numbered programs were pre-packaged films accompanying each original production (listed in Appendix I.4).

The viewer-defined programming consisted of Alaska Native Magazine, a sixty minute public affairs program devoted to news and events that effect Alaska's Natives. In-studio interviews were combined with on-location film footage to produce a combination documentary/round table discussion/ interview format. Also included were specials such as: The inaugurations of President Ford and Governor Hammond. One program was shown once each week, totalling thirty-two programs. See Table I-2 for a list of Alaska Native Magazine program topics.

"Tell and Show", the major teacher training effort, consisted of a lecture series titled "Motivating Children to Learn" by Dr. Rudolph Dreikurs, and a number of round-table discussions. Twenty-eight programs were broadcast.

Program scheduling is shown on Figure I-2.

SPECIAL TECHNOLOGICAL FEATURES

Interaction

Circuits for audio transmission from each receiving site back to Fairbanks and Juneau, and to the other ESCD sites were provided by the ATS-1 satellite, which was concurrently being used for educational and medical experiments.

There was a 10-15 minute period after each of the health and language programs for interaction. An in-studio teacher provided follow-up activities to stimulate questions and interaction from the audience at the receiving sites. The village teachers and students could then call into the studio via ATS-1 to respond and ask questions. This portion of the programming was broadcast live from Juneau.

TABLE I-2

ALASKA NATIVE MAGAZINE PROGRAM TITLES

PROGRAM NO.	DATE	PROGRAM TITLE
1	October 8	Introduction and Previews
2	October 15	Rights Vs. Responsibilities
3	October 22	Native/Non-Native Cooperation
4	October 29	Fisheries
5	November 5	Consumer Affairs
6	November 12	Environmental Protection
7	November 19	Education
8	November 26	Native Land Claims
9	December 3	Health
10	December 10	Housing
11	December 17	Pipeline Impact
12	December 24	Culture, Entertainment
13	January 7	Manpower
14	January 14	Viewer-Defined
15	January 21	State of the State Address
16	January 28	Limited Entry
17	February 4	Regional Corporations
18	February 11	Communications
19	February 18	Viewer-Defined
20	February 25	Transportation
21	March 4	Sea Mammal Act
22	March 11	Viewer-Defined
23	March 18	Offshore Oil
24	March 25	Winter Life
25	April 1	Dog Racing
26	April 8	Native Arts Festival
27	April 15	Mo Meets the Puppets
28	April 22	Whaling
29	April 29	College Life
30	May 6	Native Women
31	May 13	Changing Face of Alaska

FIGURE I-2: ESCD/ALASKA TRANSMISSION SCHEDULE

GMT	EDT	PDT	ADT	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1630	12:30pm	9:30am	7:30am					
1700	1:00	10:00	8:00					
1730	1:30	10:30	8:30					
1800	2:00	11:00	9:00					
1830	2:30	11:30	9:30					
1900	3:00	12:00n	10:00					
1930	3:30	12:30pm	10:30	"Right On"				"Right On"
2000	4:00	1:00	11:00	Amy & the Astros				Amy & the Astros
2030	4:30	1:30	11:30					
2100	5:00	2:00	12:00n					
2130	5:30pm	2:30pm	12:30pm					
2300	7:00pm	4:00pm	2:00pm					
2330	7:30	4:30	2:30				Exper. of Op. (2:45 - 3:15)	
2400	8:00	5:00	3:00					
2430	8:30	5:30	3:30				"Tell and Show" (3:45 - 4:15)	
0100	9:00	6:00	4:00					
0130	9:30	6:30pm	4:30pm					
0330	11:30pm	8:30pm	6:30pm					
0400	12:00m	9:00	7:00		Alaska Native Magazine (7:00-8:00)			
0430	12:30am	9:30	7:30					
0500	1:00am	10:00pm	8:00pm					

During live broadcasts of Alaska Native Magazine, direct interaction from rural receiving sites was possible through the two-way audio. Village viewers were able to call in questions that could immediately be answered by the program host, or by any guests present. Viewers were also invited to comment on the programs, and to suggest future topics.

Inexpensive Receiving Equipment, Color Video, and Four Audio Channels.

The ATS-6 satellite has a high power transponder, a 30 foot diameter dish antenna which concentrates the signal and increases the power, and had the ability to point a highly concentrated powerful beam, enabling the use of small, inexpensive ($5,000 for a receive only site) earth stations.

The antenna for receiving the TV programming was a circular "dish" antenna 10 feet in diameter which was usually mounted on the ground. The indoor equipment consisted of a TV receiving unit, which was about the size of a cigar box, and a TV set.

With this system, reception of color video and up to four simultaneous channels of audio was possible. Segments of the adult Public Affairs program titled the Alaska Native Magazine were broadcast, via the simultaneous channels, in Koyukon and Ypik, as well as English.

Operation of the equipment normally consisted only of turning the power switches on. The TV set controls were the same as a home receiver.

SPECIAL VILLAGE INVOLVEMENT FEATURES

In an attempt to ensure that the programs would be appropriate for school children in rural Alaska, each receiving site was requested to select a representative to serve on a Consumer Committee. These committees met with program designers to oversee the program design and production.

The Consumer Committee for the Alaska Native Magazine consisted of members of Regional Native Corporation. This committee determined the content of many of the Alaska Native Magazine programs.

At each receiving site, a local resident was hired to take responsibility for technical operation of the equipment, and in the case of the Tuesday evening Alaska Native Magazine, to make sure the school was open and to encourage interaction.

RECEIVING SITES

Figure I-3 presents a map of the 14 rural receiving sites, and their geographical relationship to the population centers of Anchorage and Juneau. Section II contains descriptions of communications and and sociological features of ESCD's receiving sites.

GRANTEES

General direction for planning and management of Alaska's ATS-6 Health & Education Telecommunications Experiment was the responsibility of the Office of Telecommunications, within the Office of the Governor of Alaska.

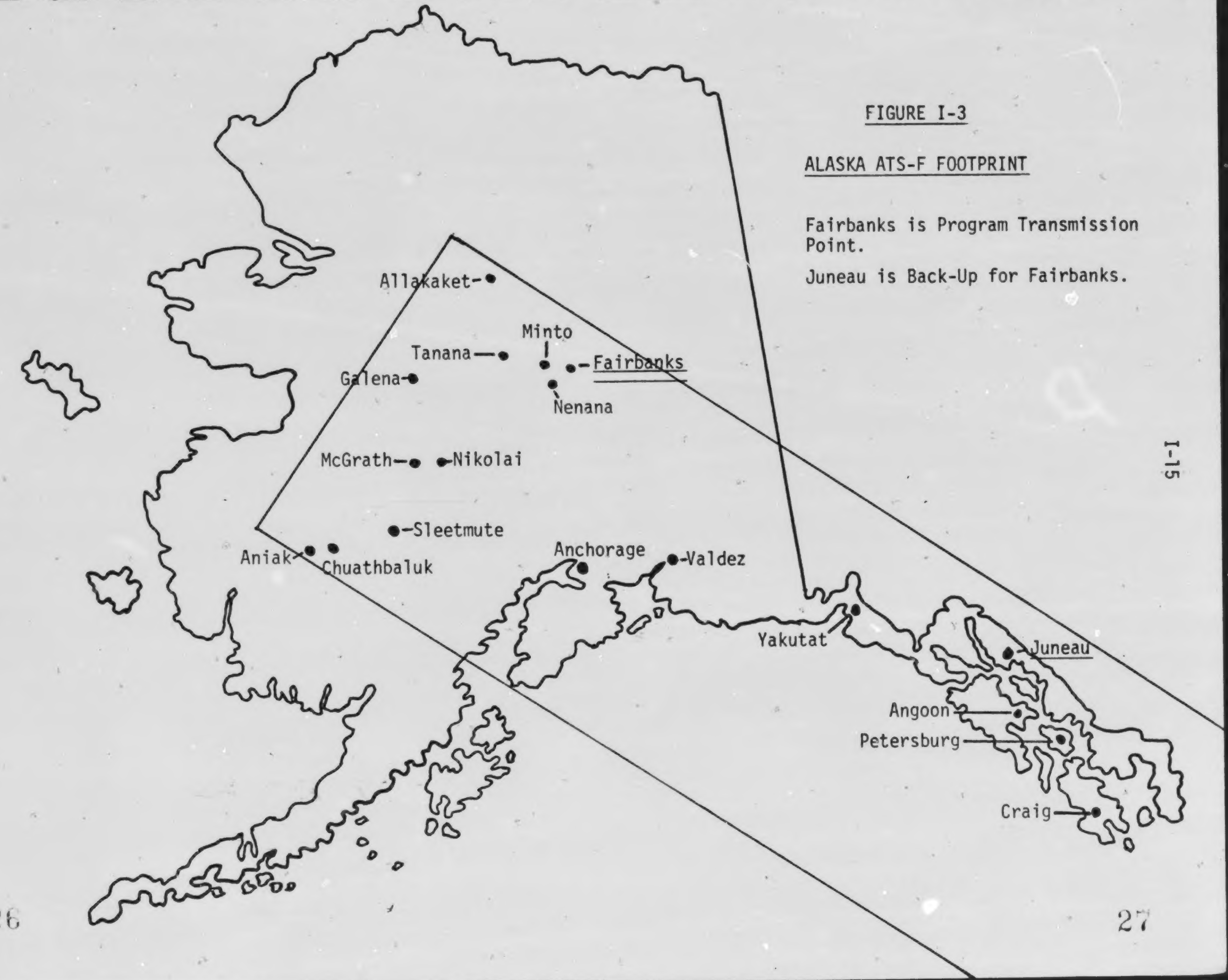
Installation and maintenance of the system was also handled directly by the Governor's Office of Telecommunications in Juneau.

FIGURE I-3

ALASKA ATS-F FOOTPRINT

Fairbanks is Program Transmission Point.

Juneau is Back-Up for Fairbanks.



The taped portions of the children's programs were designed by Northwest Regional Education Laboratories (Seattle, Washington with a special ESCD office in Anchorage, Alaska), with the help of Consumer Committees selected from ESCD sites.

The Alaska Native Magazine was designed by KUAC/TV in Fairbanks with the help of a Consumer Committee made of respresentatives of Regional Native Corporations.

All production of the above programs was handled by KUAC in Fairbanks. "Tell and Show", the major teacher-training programming was produced by the Office of Telecommunications in Juneau.

C. THREE PILLAR QUESTIONS

The emphasis of this First Annual Report on ESCD/Alaska is on user reaction to satellite television. Emphasis is on using ESCD/Alaska as a probe or litmus in advance of technological progress to find out how telecommunications should be used to benefit rural Alaskans. Discussion of user reaction to ESCD/Alaska is organized around three pillar questions:

How does satellite television fit the requirements rural Alaskans place on media systems?

How can control of Alaska's rural media systems be delivered to villages?

What lessons have been learned from ESCD about programming for rural Alaska?

Recommendations for the future derived from user reaction to ESCD/Alaska are organized around the three pillar questions as follows:

I. Satellite Television and the Media Requirements of Rural Alaska
    A. Criteria for Investment in Satellite Television
    B. Mandatory Components of a Satellite Television System
    C. Necessary Complements to a Satellite Television System

II. Control of Alaska's Rural Media by the Villages
    A. A Strategy for Developing Alaskan Native Programming Capability
    B. A Strategy for Giving Consumers Veto/Approval Control Over Media Services
    C. A Plan for Day-To-Day Management and Monitoring of Media Service to Rural Alaskan Villages

III. Lessons Learned About Programming for Rural Alaska
    A. Strategies for Allocating Programming Resources
    B. Specific Areas for Future Programming

Relatively little analytical attention is paid, in this first annual report, to the funding, planning, and management processes which resulted in ESCD/Alaska. Emphasis is on the information generated for future telecommunications planning in rural Alaska.

There are, however, several characteristics of ESCD/Alaska which have inhibited ESCD/Alaska's information generating power. The following list contains the PCI study team's perceptions of constraints on its own efforts to contribute to Alaska's telecommunications planning:

- Funding for ESCD/Alaska was very complex and stop-and-go. When participants are continually worried about funding problems, it is difficult for them to concentrate on the substantive business at hand (for funding details see Section V).

- Seven of the 15 ESCD sites had non-satellite television of one form or another. ESCD was forced, then, to compete against national network programming, which in six of the seven cases was viewed in the home (see Section II).

- Collection of attendance records for the Alaska Native Magazine was spotty (see Section V).

- Consumer committees and Utilization Aides, which represent ESCD's effort to involve Alaskan Natives in planning, were not chosen until after many of the important decisions were already made (see the "Critical Events" listed in Section V).

- Initial contact with the sites could only be made during the summer, when many village residents are out of town fishing, hunting, working on the pipeline or on construction jobs, or taking vacations (see the "Critical Events" listed in Section V).

D. SUMMARY

The explicit recommendations discussed in this report (presented in Table I-3) and an attempt to answer more "jugular" questions are summarized below:

Q. Was the National Institute of Education's investment in ESCD worthwhile?

A. No. ESCD's payoff in terms of educational experimentation was trivial when considered in terms of total cost.

Q. Are there telecommunications demonstrations that NIE should sponsor?

A. No conclusive answer to this question derives from our study. However, our study does show that there is a high latent demand for secondary school educational programming. Further, the consensus in Alaska is that high quality "canned" programs for secondary school users are not readily available. Therefore, experimentation with secondary school programming appears to be a wise investment.

Q. How should that investment be made and controlled?

A. Local autonomy--control over planning and investment by village or regional Native non-government organizations.

Q. Is the satellite necessary for educational programming in Alaska?

A. The satellite is but one (of several) alternative ways of providing wide area telecommunications coverage from a single source. The question of whether or not satellites are the best way of providing this coverage is a technical judgment that will eventually be answered in the marketplace.

Further, although we originally predicted there would be some Hawthorne effect associated with the glamour attached to the satellite, our data do not show any such effect to be of importance. By and large, the Alaskan villagers are objective about the satellite linked communications. They perceive it as more reliable than alternatives and desirable for that reason.

Q. Should NIE fund further educational demonstrations in Alaska using the ATS-6?

A. No--not on ATS-6. If the charter of NIE is to encourage educational experimentation, then there are better ways of doing it. Village level and even regional council involvement in ATS-6 programming and actually shaping programs was nil. And although the Alaska site did establish some programming that was different in kind than predecessor programs (e.g., the Alaska Native Magazine), the experimental value of that program is modest. Further, care must be taken to ensure that direct government sponsorship of such demonstrations does not preclude the practical innovations and experimentation at which such investment is presumably aimed.

If NIE funds further educational demonstrations, Alaska is the place to do it and the recommendations of Table I-3 should be followed. Satellite linked communications will inevitably become the way of life for Alaska, and there is strong felt need for educational programming to complement secondary school activities. Therefore, the focus of such investment should be on:

- Secondary school education;
- Tape as well as real-time video;
- Village level or regional control over all plans and investment.

TABLE I-3
SUMMARY OF RECOMMENDATIONS

I. SATELLITE TELEVISION AND THE MEDIA REQUIREMENTS OF RURAL ALASKA

A. Criteria for Investment in Satellite Television

RECOMMENDATIONS	BASIS IN ESCD EXPERIENCE
1. Undertake telecommunications demonstrations in rural Alaska only when there are resources and commitment for putting aspects of the demonstrations which users deem successful directly into operations.	Rural Alaskans resent being given access to satellite television, only to have it taken away. Since effective demonstrations require enthusiastic participation on the part of users, demonstrations perceived by rural Alaskans as temporary are not a good investment of taxpayers' money.
2. Undertake satellite television operations only when they can be justified on the basis of cost-effective, timely access to programming.	Satellite television cannot be justified on the basis of real time viewing, live video programming, or live interaction incorporated with video programming. The remaining function performed by satellite television is access to programming.

B. Mandatory Components of a Satellite Television System

RECOMMENDATIONS	BASIS IN ESCD EXPERIENCE
1. Television sets must be placed in village community centers as well as village schools.	Placing sets solely in the schools makes many potential adult viewers uncomfortable, can give schools actual if not legal control over village television, and therefore goes against the current trend of giving Natives control over operations which effect them.
2. Television programming for rural Alaska must be accompanied by resources and explicit instructions for video-taping and watching at the villages' convenience.	Both inside and outside the classroom, the value of flexible scheduling exceeds the value of real time viewing. Television which attracts the highest participation and disrupts life the least in the villages must allow customized scheduling for each village and classroom.

C. Complements to a Satellite Television System

RECOMMENDATIONS	BASIS IN ESCD EXPERIENCE
1. As a complement to satellite communications, regional media networks must be developed to meet the demand for region-specific programming.	Region-specific demand has several sources: Varying ideas on how much television is good for rural Alaska; Interest in regional topics and issues; Native Language broadcasting; Regionalization of school systems.
2. As soon as there is satellite telephone, audio interaction should be used without video programming.	ESCD users have innovative ideas for audio interaction use. For the cost of telephone calls, the following will be possible: phone-in conversation radio programs; conference calls to hold meetings; audio management of media services; and education materials distribution.

II. HOW CAN CONTROL OF ALASKA'S RURAL MEDIA BE DELIVERED TO THE VILLAGES?

A. Subsidize the Development of Alaskan Native Programming Capability

RECOMMENDATIONS	BASIS IN ESCD EXPERIENCE
1. To give Alaskan Natives direct participation in programming, the appropriate investments are in regional and local media networks and programming.	Programming by and for Native Alaskans is a high leverage investment in cultural pride and awareness. However, at present there are very few Native Alaskan media professionals. Regional networks would provide more low level jobs for moving Natives in and up in the media than would the same coverage via satellite, and they would require less slick professionalism. It seems probable that satellite television would inhibit development of regional networks, but that regional networks would stimulate healthy growth of satellite programming if regional networks precede the satellite system.

B. Subsidize the Purchase of Programming by ESCD Consumer Committees

RECOMMENDATIONS	BASIS IN ESCD PROGRAMMING
1. ESCD Consumer Committees (including Utilization Aides) should be given funds for buying programming on behalf of rural Alaskan villages. Purchase of programming should be made on the basis of samples submitted by potential programmers in competitive bid fashion. Teachers should participate in the Consumer Committee as advisors on children's programming.	Under the ESCD arrangement, Consumer Committees only advise programmers, and represent only token control. They do, however, represent a valuable investment in consumer education which must be capitalized on. The only way to give villagers control over rural media is to give them real approval/veto power, which means purchasing power. Teachers as advisors is appropriate since Consumer Committees represent the teachers' constituents, i.e., the parents of the children they teach.

C. Subsidize the Hiring and Training of Village Media Managers

RECOMMENDATIONS	BASIS IN ESCD PROGRAMMING
1. Give each rural Alaskan village funds for the hiring and training of a Media Manager. The Media Managers must be employees of the villages, not of the State Government.	Whoever has media access to rural Alaskan villages has a virtual monopoly. Therefore, there must be the analogue to the knobs on our radios and televisions for whole villages. ESCD experience with Utilization Aides has shown that Media Managers must perform duties in the following areas: tell programmers what media services villagers like and do not like, and constantly keep villagers aware of what media services are available; coordinate viewing of adult programs and activities for children during adult programs; provide leadership, especially if the television set is in the school; collect and report local news for media transmission; organize visits by television film crews;

III. TELEVISION PROGRAMMING FOR RURAL ALASKA

A. Strategies for Allocating Programming Resources

RECOMMENDATIONS	BASIS IN ESCD EXPERIENCE
1. Commitment to broadcast material and commitment of resources to new programming must be separate decisions. The commitment to new programming must be preceded by a survey of available programming.	ESCD user reaction to programs which overlapped with existing available programs, and to programs which filled a curriculum need were quite different. Obviously, there is no sense funding new programming when satisfactory material already exists.
2. If "culturally relevant" programming is the objective, then the appropriate investment is in training Alaskan Native media professionals.	ESCD programming and production staff was overwhelmingly white, and cultural relevance was not seen by users as a salient characteristic of the children's programming. The important dimensions of Alaskan Native cultures are social and behavioral, and therefore subtle. It would seem easier to teach programming to people who know the subtleties than vice versa.

B. Specific Areas for Future Programming

RECOMMENDATIONS	BASIS IN ESCD EXPERIENCE
1. Telecommunications in rural Alaska should take as its mandate: solution to the "high school problem." Three alternatives for augmenting village high school curriculum are: materials distribution of already existing programming; teacher-sharing via audio presentations and supervised interaction; new programming on Alaskan Native History.	Sending rural Alaskans away from their villages to high school has tragic consequences. Therefore, village high schools are being established. However, villages have neither the expertise nor the educational materials available to deliver full high school education. Alaskan Native History is an area where high school students might use audio interaction to develop their own programming.
2. Government officials and other people who effect the lives of rural Alaskans should be interviewed for television transmission in a village setting, in front of a village audience which asks questions and speaks up when they do not understand. (Media Managers must take a leadership role here.)	Using the current Alaska Native Magazine format, white administrators and city Natives do not talk so village audiences can understand. Perhaps a solution is for the speaker to see, hear, and feel how an audience like the one he is addressing via television reacts.

E. IMPLICATIONS FOR THE SECOND YEAR OF THIS STUDY

Based on results to date, PCI has established that the major topics to be addressed during the second year of NIE activities are:

- Secondary education,
- Telecommunications Planning for the State of Alaska,
- Post-secondary non-formal education.

These are identified as topics because the State of Alaska is currently making or considering making investments in these areas.

Basic theses to be examined during year two will be:

- Government (Federal & State) attempts to preserve cultural diversity are counterproductive.*
- Government subsidization of satellite communications (i.e., creating a satellite communications network before that network is required to sustain such mainstream communications activities as telephone and other commercial activities) will have negative effects as indicated by following phenomena:
    a. the growth of regional communications capability will be inhibited;
    b. the development of regional programs will be inhibited;
    c. the development of user and community skills in using the communications technology, and in innovating in the course of that utilization, will be inhibited.

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* One could argue that the one sure way to destroying cultural diversity is for the Government to attempt to preserve that diversity. Further, it is probable that the first step in that destruction will be to create a non-culture--a culture existing only in the eyes of the white population and called the "Alaska Native Culture." Then, instead of having cultural diversity Alaska will be polarized in terms of two non-existent cultures--the "mainland mainstream culture" and the "Alaska Native Culture."

Note: The last issue is worth further discussion. Alaska is probably the most plausible place in the world for "all-electronic" communication--where new ways of living, working and doing business can be developed by taking full advantage of electronic and computer sensible information at point of origin. We have a choice of creating a situation in which natural market forces leads to local experimentation and innovation, or we can subsidize the villagers to do things the way they are done at the universities, the networks, etc. as to preclude important innovation.

- Satellite communications offers a way of testing the voucher approach to education. NIE should be explicitly interested in this objective and should consider funding experiments in this regard. Given a diversity of video programming available, and the ability of the consumer committees to select from among those programs, we suspect that the net educational effect will exceed that which would be achieved by dealing with "the experts."

- Remote real-time video communications are more important for secondary education in Alaska than they were for primary, simply because there is a scarcity of good VTR materials for secondary education. Although this can be viewed as a strong argument for investing in program development rather than telecommunications, a case can be made for investing in telecommunications as a means of spawning experiments in program development.

SECTION II

BACKGROUND DATA: DESCRIPTION OF THE DEMONSTRATION ENVIRONMENT IN ALASKA

This section of the report describes the environment of the experiment, in terms of telecommunications capabilities, demographic characteristics, etc. These data are of great importance in understanding user reactions to the ESCD experiment.

A. CHARACTERISTICS OF ALASKA WHICH DIRECTLY AFFECT TELECOMMUNICATIONS

Characteristics of Alaska which directly affect communications are primarily geography and population distribution.

Geography

Alaska has the largest land mass of any state in the United States. In fact, it is one-fifth the size of the continental United States, covering 571,000 square miles, and stretching across four time zones.

Population Distribution

Alaska has less than 350,000 inhabitants living in approximately 265 communities. As of 1970, population was distributed as shown in Table II-1.

TABLE II-1

POPULATION BY COMMUNITY SIZE*

COMMUNITY SIZE	POPULATION	PERCENT
25,000 or more	48,029	16.0
10,000 to 25,000	32,860	10.9
5,000 to 10,000	43,268	14.4
2,500 to 5,000	21,355	7.1
1,000 to 2,500	37,853	12.6
Less than 1,000	117,017	38.9
	300,382	

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* 1970 Census for the State of Alaska.

Since 1970, due to changes in Alaska some of which are described in Section IV, the overall population and the population distribution in Alaska have changed drastically. Primarily, the urban centers of Anchorage and Fairbanks have increased in population.

A key statistic for deciding on the appropriateness of satellite television for rural Alaska is the number of people living in isolated communities of less than 1,000 people. The statistic is key because it describes the people who:

- live in population centers which may be too small to buy their own cable or mini-transmitter system. (Both the ESCD sites with populations above 1,000 have cable television. The sites are Petersburg and Valdez.)
- live too far from population centers with television broadcasting facilities to receive television broadcasts. (Of the ESCD sites, Nikolai and Minto receive television broadcasts aimed at larger population centers.)

An Estimate of the Number of People Living In Isolated Towns and Villages of Less Than 1,000 Population

Table II-2 lists all the towns with populations (as of 1970) of above 1,000 persons which do not lie within the environs of Anchorage or of Fairbanks. The total is 44,330.

An estimate of the number of people living in isolated towns and villages of less than 1,000 people as of 1970 equals:

Total Alaska Population	Minus	Anchorage and Fairbanks and their Environs	Minus	Towns of over 1,000 not within the environs of Fairbanks or Anchorage		
300,382	-	191,165	-	44,330	=	64,887

TABLE II-2

TOWNS OF OVER 1,000 POPULATION NOT WITHIN THE ENVIRONS OF FAIRBANKS OR ANCHORAGE*

TOWN	POPULATION
Juneau	6,050
Ketchikan	6,994
Kodiak	3,798
Sitka	3,370
Adak Station	2,249
Shemya Station	1,131
Barrow	2,104
Bethel	2,416
Cordova	1,164
Lower Mendenhall Valley	1,109
Upper Mendenhall Valley	1,815
Kotzebue	1,696
Nome	2,488
Metlakatla	1,050
Fort Greely	1,820
Valdez	1,005
Petersburg	2,042
Wrangell	2,029
TOTAL	44,330

---

* 1970 Census for the State of Alaska.

64,887 is an over-estimate of the number of people who might require a satellite for television access. It is an over-estimate because:

- Some people live in situations so isolated that a reception dish is not amortizable;
- Some small villages, especially in the Bethel area (see Section IV), receive television via mini-transmitter;
- Some villages receive direct television broadcasts even though they are not situated in the environs of a population center. (Of the ESCD sites, Nikolai is an example.)
- Some villages receive television from nearby Armed Forces installations. (Of the ESCD sites, Galena and McGrath are examples.)

Interestingly enough, subtracting towns which

- have populations of between 500 and 1,000; and
- are not within the environs of Anchorage or Fairbanks

lowers the above figure of 64,887 to:

64,887 - 4,409 = 60,478.

(The towns subtracted are: Dillingham, North Douglas, Mount Edgecumbe, Skagway, Hoonah, and Delta Junction.)

Additional Communications Facts About Alaska

One hundred and seventy of the approximately one hundred and ninety Native villages have access only by air, boat, snowmobile, or dog sled. Forty-five of the one hundred and seventy have no airstrips, so there is no air access during the spring when the rivers are breaking up, and during the fall when the rivers are freezing over.

Over one hundred of the one hundred-ninety Native villages have no 24 hour telephone service.

As of 1973, 66,000 Alaskans were still dependent on bush phones, which are special purpose radio transmitters which allow no confidential messages.

Plans are now being enacted to give rural Alaskan villages twenty-four hour telephone service. The following article (Exhibit II-1) from the Alaska Office of Telecommunications describes the plans, and progress toward enacting them.

EXHIBIT II-1

ALASKA OFFICE OF TELECOMMUNICATIONS

TWO SMALL EARTH STATION NETWORK

10/1/75

A BRIEF DESCRIPTION

A network of small earth stations is being installed jointly by RCA and the State of Alaska to provide people living in remote areas with a reliable communications system. As these stations are first installed they will supply each community with a special channel for emergency use and for communication with regional hospitals plus regular telephone channels. These channels will provide excellent voice quality and will be available 24 hours a day.

A simplified diagram showing how the earth stations work with a communications satellite is given in the following illustrations. The earth stations transmit the voice signals to the satellite where they are shifted in frequency, amplified and beamed back to another earth station.

Figure 1 shows the signal path from a village telephone to a major city. Dialing signals from the village station are picked up by the main RCA station at Talkeetna; automatic equipment then re-dials the desired phone number. When the called telephone is answered, normal conversation can take place.

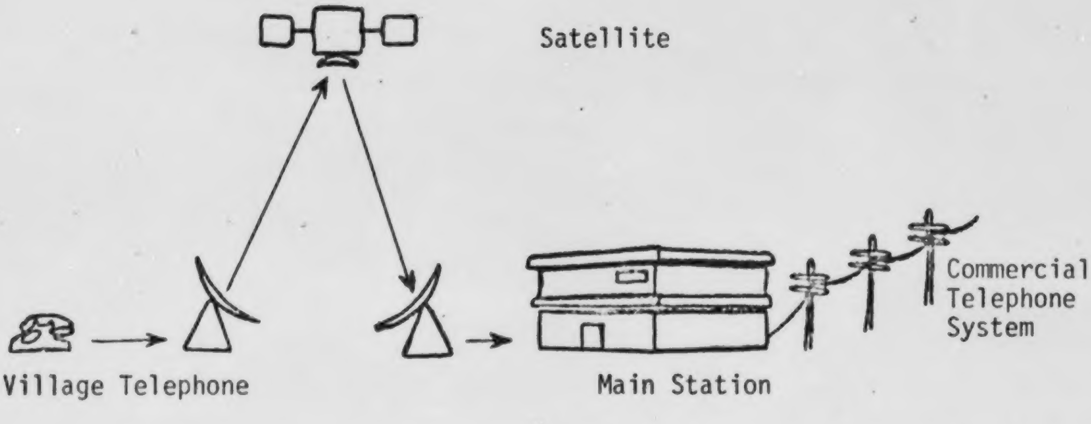


Figure 1: VILLAGE TO OUTSIDE (Alaska and U.S.) TELEPHONE SYSTEM

When a call is placed from one remote area station to another the signal paths are as shown in Figure 2 (next page). In this case dialing signals from one remote station are received at the main station which then automatically selects the proper channel on the satellite and sends ringing signals to the called telephone.

When calls are made from one remote station to another the signals pass through the satellite twice: up from station 1 through the satellite and down to the main station, and then up again from the main station through the satellite and down to station 2.

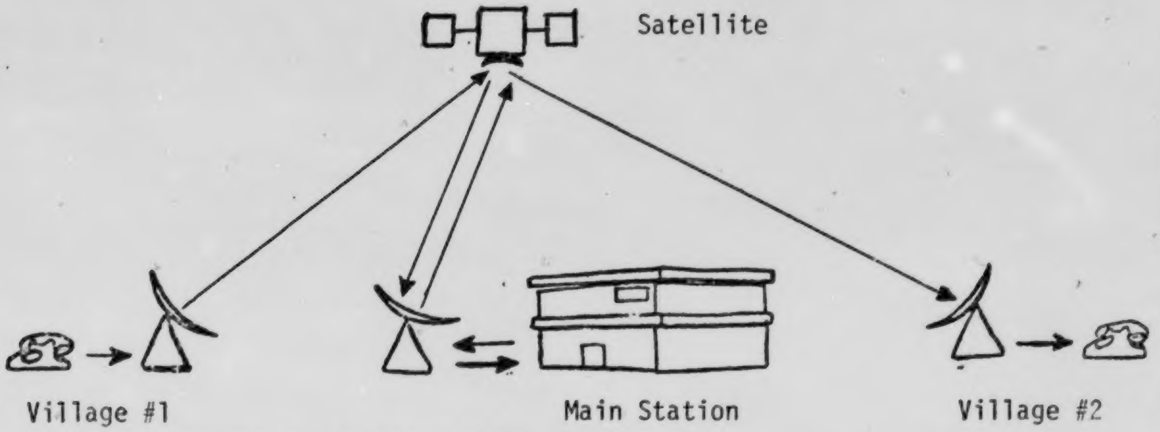


Figure 2: VILLAGE TO VILLAGE TELEPHONE SYSTEM

Figure 3 shows the method of operation for emergency and medical service. In this mode all stations in a district use the same channel and can talk to one another on a single hop through the satellite. This provides party-line service to allow personnel at all stations to listen at the same time to instructions as they are transmitted.

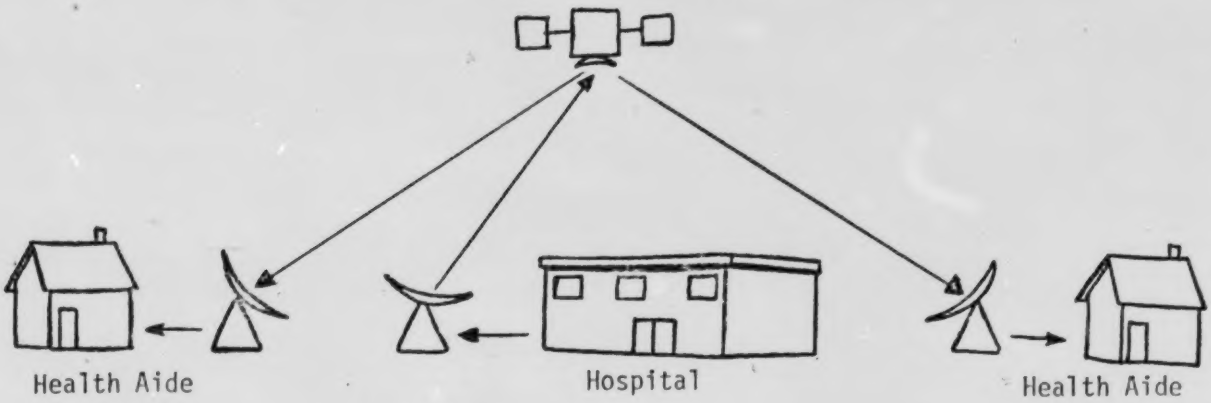
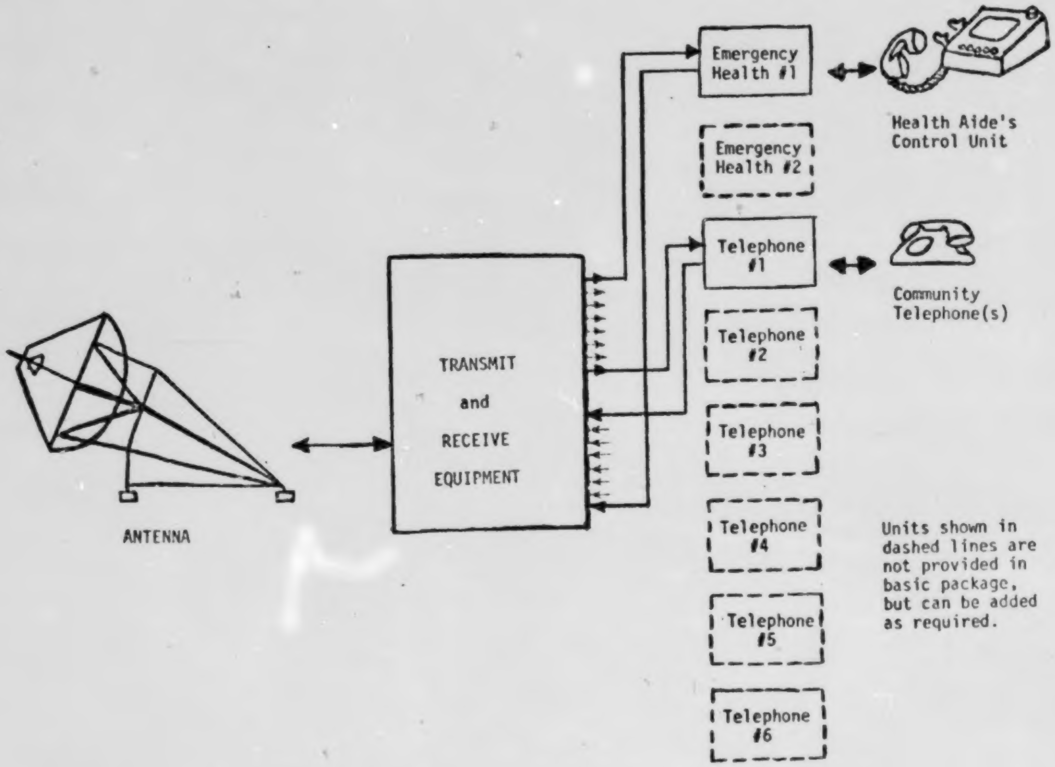


Figure 3: EMERGENCY MEDICAL SYSTEM

THE EQUIPMENT - WHAT IT WILL DO

The remote area station equipment consists of a 15-foot diameter antenna and a cabinet containing the electronics equipment. A simplified diagram of the small earth station is shown in Figure 4.



Units shown in dashed lines are not provided in basic package, but can be added as required.

Figure 4: SIMPLIFIED DIAGRAM OF BASIC SMALL EARTH STATION

In most cases each station will provide one emergency/medical channel and one telephone channel when it is installed. The capacity of the station can be increased to two emergency/medical channels and six telephone channels simply by installing additional channel units. The additional equipment needed for extra voice channels will be installed as needed, in some cases during the initial earth station installation if the original demand is high enough.

TELEPHONE SERVICE

The telephone capability of the Alaskan earth stations means that each village can have at least one telephone for making outside telephone calls. These will be standard dial telephone circuits which can be used to call anywhere in the United States including the other small communities within Alaska which have similar earth stations.

The fact that only one telephone channel is provided in the basic equipment does not necessarily mean that there can be only one telephone in the community; all it means is that only one long-distance call (outside the community) can be made at a time. It will be possible to have as many telephones as wanted connected to the earth stations. Communities which have their own dial telephone systems can be set up so that their long distance calls will go through the earth station. Obviously communities which have a large number of telephones will need more than one channel through the earth station because the probability of more than one person wanting to make a long-distance call at the same time will be high. It is expected that some communities will want to install their own telephone systems once the earth stations become operational.

EMERGENCY/MEDICAL CHANNELS

The emergency/medical channel will enable health aides, nurses and other authorized personnel to contact their regional hospitals in case of medical emergencies, and can be used by the hospital to provide instructions for the care of patients who can be treated in the community.

This channel will operate much like a regular radio communication system. All stations in a medical district will operate on the same channel, and each station will be provided with a push-to-talk microphone for use on the medical channel. Because all stations in a district operate on the same channel, they will all be able to hear one another. This is the same type of operation which has been successfully used in the Tanana district for several years through the ATS-1 satellite.

The advantage of this single channel operation is that it enables doctors to address all stations in the district simultaneously for discussion and training purposes. The equipment necessary to listen in and talk on the emergency medical channel will be located only in hospitals, clinics and health aide offices and will not be accessible to the general public.

TELEVISION

The first small earth stations will not initially be equipped to receive television although the necessary equipment can be added when acquired. The State is currently engaged in evaluating various types of equipment required for television reception. Television capability will be added when the equipment and transmission techniques have been selected and arrangements for obtaining television programming have been completed.

OTHER SERVICES

In addition to telephones, special equipment such as teletype machines and computer terminals can be connected into the small earth stations. These can be connected to communicate with central facilities such as computers or large data banks, or to one or more other small earth stations, or to any other place on the regular telephone system. Services of this type can be used by government agencies, schools, airlines, and other commercial enterprises.

AS THE SYSTEM GROWS

The small station network that is now being implemented in the State of Alaska has required many months of planning, engineering and negotiation among the State, communications carriers and equipment manufacturers. This network offers excellent service, ample room for growth, and yet costs relatively little in comparison to other methods. It is a system which will meet the immediate needs of remote communities and can be upgraded at minimum cost to meet expanding needs as they develop.

B. FACTORS IN ALASKA WHICH INDIRECTLY EFFECT TELECOMMUNICATIONS

There are at present in Alaska many social changes occurring which may interact with telecommunications. Some of the more important areas of change are discussed in Section IV. Those areas of change are:

The Alaska Pipeline;
The Native Claims Settlement Act;
Regionalization of Control of Education and Other Social Services;
Alaskan Rural Secondary Education;
The Bilingual Education Movement.

An additional area of potential change with implications for telecommunications which is also discussed here is:

The Cross Cultural Nature of Education in Rural Alaska.

In this section, the discussions in Section IV are summarized with emphasis on ways the social changes may interact with telecommunications. Major ways the social changes may interact with telecommunications are:

1. Increase demand and need for telecommunications;
2. Provide resources for making telecommunications and programming available;
3. Cause problems solvable via telecommunications;
4. Combine with telecommunications impact to intensify problems.

THE ALASKA PIPELINE

One of the social changes occurring at present in rural Alaska is the construction of the Pipeline for transporting oil from Prudhoe Bay in the far north to Valdez 789 miles to the south on Prince William Sound.

The pipeline is affecting rural Alaska and Alaskans in two ways which have implications for telecommunications:

- It has increased, and will continue to increase, contact between Alaskan Natives and the dominant white culture;
- It is and will continue to be a source of revenue.

The Pipeline's Effect on Contact Between Alaskan Native and White Cultures

The Alaska Pipeline increases contact between Native Alaskans and the dominant white culture in two ways:

- Native Alaskans work on the Pipeline;
- The Pipeline's 789 mile length passes through territory inhabited primarily by Alaskan Natives.

A Bureau of Indian Affairs report estimates that 20% of Alaskan Natives will have had direct contact with the Pipeline by the time it is finished.

The Pipeline and satellite television, then, parallel each other with respect to their potential for increasing contact between Alaskan rural cultures and the dominant white culture.

The Pipeline as a Source of Revenue

The Alaskan Pipeline provides both the Alaskan Natives and the Alaskan State Government with revenue. It provides Alaskan Natives with revenue via two avenues:

> Alaskan Natives earn an estimated $13.5 million per quarter in wages while working on the pipeline;
>
> Alaskan Natives own subsurface royalties to 40 million acres of Alaskan land. This source of revenue is discussed below.

In 1969 the State Government derived $900 from oil lease sales, and projections are that the Alaska State Government will derive between $123 and $361 million per year between 1977 and the year 2000.

Potentially, then, the Pipeline could facilitate provision of telecommunications systems such as satellite TV and programming at the state and local levels. Due to the Pipeline:

> Alaskan Natives may have money to buy television sets, and they may become a market for products advertised over television;
>
> The Alaskan State Government may have funds to finance extensive telecommunications and programming to rural Alaska.

THE 1971 NATIVE CLAIMS SETTLEMENT ACT

The Native Claims Settlement Act is the result of a class action suit brought by Alaskan Indians and Eskimos against the United States Government for illegal expropriation of land. Under the act, 60,000 Alaskan Natives receive from the United States Government, $462.5 million spread over 15-20 years, and all subsurface and one-half the surface rights to 40 million acres. In addition, $500 million will be derived by Regional and village corporations from mineral royalties.

Aside from land and money, effects of the Act include:

12 Regional Corporations, and
210 Village Corporations

set up for disbursal of the revenues. One-half is retained by the Regional Corporations, and one-half is disbursed to village corporations and shareholders.

400-600 jobs for FY 1978 in the corporations.

So far the Corporations have invested in buildings, hotels, etc. Potential relationships of the Act to telecommunications are:

- Ability to buy television sets;
- New tastes caused by access to money;
- Training needs, of village corporation managers for example;
- Communication needs among the network of corporations;
- Desire, resources (political and financial) and expertise for controlling media service to the villages.

REGIONALIZATION OF CONTROL OF SOCIAL SERVICES

A far-reaching outcome of Land Claims has been Native effort to control Native affairs. A tangible result has been the decentralization of the Alaskan State Operated School System, one of two large school systems in rural Alaska (the other is run by the Federal Bureau of Indian Affairs).

As stipulated in Senate Bill 35 passed in Spring 1975, Regional School Boards will assume full policy authority on July 1, 1976. Historically, rural Alaskans have had only advisory control over education in their villages. All hiring of teachers, and curriculum policy were handled centrally.

Potential relationships to telecommunications are:

- Native may want to control media services as well as education in their villages;

- Educational needs as perceived by the different Regions may not be serviceable via one state-wide satellite system. Regional educational television networks may be optimal.

RURAL SECONDARY EDUCATION

In Alaska, approximately one-half the Native high school students are enrolled away from home: in Alaskan cities, in the lower forth-eight, or in Regional High Schools. The yearly dropout rate is between 15% and 30% suicide, homicide and alcoholism rates for the students are abnormally high.

In 1972, a case was brought in behalf of Molly Hootch to require the Alaskan State Operated School Systems to provide high school education within home community of Alaskan villages.

It was decided that the State of Alaska would not be compelled to provide secondary schools in all Alaskan villages. However, in spite of the decision, the State of Alaska is continuing to build high schools in the villages. Examples within the ESCD footprint are: Aniak, Tanana, and Angoon.

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* For a more elaborate discussion of the effects of public high schools on village children away from home, the reader is directed to A Long Way from Home by Judith Kleinfeld, Ed.D., Center for Northern Educational Research and Institute of Social, Economic and Government Research, University of Alaska, 1973.

Problems that rural high schools have are:

- Lack of materials;
- Materials that become out of date quickly;
- Lack of teachers specialized in all areas required for a quality high school education.

Potential relationship to telecommunications:

Education television (perhaps by satellite) might be used to augment the curricula of rural Alaskan high schools.

A CONSTANT IN RURAL ALASKA: THE CROSS-CULTURAL NATURE OF EDUCATION IN THE VILLAGES*

Education in Alaska has been historically and still is a cross-cultural communication process. The socio-cultural background of the teachers is almost always very different from that of the students. Schools are physically, socially, architecturally, and culturally removed from the rest of the village in most cases.

Potential relationship to telecommunications:

School access to television when the rest of the village has none may make the separation more serious;

Holding adult programs in the school may move the community toward the schools, and reduce the separation.

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* This brief discussion is essentially a condensation of some observations made by Ray Barnhardt in "Educating Across Cultures: The Alaskan Scene," Cultural Influences in Alaskan Native Education, James Orvik and Ray Barnhardt (editors), Center for Northern Educational Research, University of Alaska, Fairbanks, 1974.

THE BILINGUAL EDUCATION MOVEMENT

There are, in Alaska, on the order of 20 Native languages separated into five language groups. There has been, over the decades, a steady loss of speakers, and until recently the vast majority of the languages have had no written form. At present it is estimated that in only 36 of 192 Native communities, do all Native residents speak their Native tongue fluently.

Starting with the establishment of the Eskimo Language Workshop in 1970, efforts began to give all the languages a written form, and to revive the languages by teaching them in rural schools.

Native languages are now taught in 63 rural schools to over 1,000 children, and several organizations are actively working to revive Native languages: the Eskimo Language Workshop, the Alaskan Native Language Laboratory, and the Alaska Native Education Board.

Potential relationship to telecommunications:

> Inundation of rural Alaska with telecommunications in English may effectively deliver the coup de gras to the Alaskan Native Languages;
>
> Telecommunications may offer a tool for teaching Native languages.

C. COMMUNICATIONS PROFILES OF ESCD SITES

The ESCD sites represent the entire range of communications situations in rural Alaska, although perhaps not in representative proportions.

Media Services Available to All ESCD Sites

Figure II-1 shows that all the ESCD sites have four basic media services:

Special purpose radio;
Bush phone;
School videotape player;
Community movies.

Special Purpose Radio refers in most cases to the school or health aide radio, which is high frequency with a single side band. It is unreliable, and allows no confidential messages.

Bush Phone refers to a special purpose radio which can tie into a microwave system. It removes those villages having it from total dependence on the unreliable signal conditions of high frequency and single side band systems.

Videotape Players have become commonplace in rural Alaskan schools, as have libraries of "Sesame Street" and "Electric Company" tapes.

There is a videotaping and loan service which prior to last year was funded by the Alaskan State Operated School System. The service is now managed by the Department of Education, and according to reports by teachers in ESCD villages, this service runs sporadically due mainly to problems with mail service, and some hoarding by teachers.

FIGURE II-1: COMMUNICATIONS PROFILES

	TELEPHONE		RADIO		TELEVISION					NON-TV VIDEO	
					HOME VIEWING				CENTRALIZED VIEWING		
	BUSH[1]	LOCAL COMPANY[2]	SPECIAL PURPOSE[1]	AM[2] AND/OR FM	CABLE	ARMED FORCES	FAIRBANKS TV	BETHEL TV IMMINENT	MCGRATH & ANCHORAGE TV	SCHOOL VTR	COMMUNITY MOVIES
Allakaket	x		x	x						x	x
Angoon	x	x	x							x	x
Aniak	x	x	x					x (relay)		x	x
Chuathbaluk	x		x					x (relay)		x	x
Craig	x	x	x	x						x	x
Galena	x	x	x	x		x				x	x
McGrath	x		x	x		x				x	x
Minto	x		x	x			x (direct			x	x
Nenana	x	x	x	x			x (relay)			x	x
Nikolai	x		x	x					x (direct)	x	x
Petersburg	x	x	x	x	x					x	x
Sleetmute	x		x							x	x
Tanana	x	x	x	x						x	x
Valdez	x	x	x	x	x					x	x
Yakutat	x	x	x							x	x
	100%	60%	100%	67%	13%	13%	13%	13%	7%	100%	100%

40% (53%)

47% (60%)

1 = Limited Access
2 = Public Access

Community Movies are shown from once to seven times a week in virtually all Alaskan villages. Movie fare is drawn from catalogues supplied by distributors of 16mm feature films. A preference seems to be for action features and light comedies. Admission ranges from $1.00 to $2.00.

Media Services Available to Some ESCD Sites

Figure II-1 shows that 60% of the sites (nine of fifteen) have public access phones, and 67% (ten of fifteen) have access to public radio programming.

Existence of a local phone company means public access to a telephone system which allows confidential communication access to the rest of the world. In addition to the school, the health clinic, and airplane service, only a few homes are likely to have a phone. Sometimes there is also a public phone booth.

Public access radio is likely to consist mainly of music and local news programs, such as "Tundra Drums" in the Tanana area. Public access radio is often used as a telephone substitute; it is often used to convey personal messages.

Television--Figure II-1--shows that 47% of the sites (seven of fifteen) have access to one form of non-satellite television or other, and two more villages have prospects for television in the near future (Aniak and Chuathbaluk). In only one site (Nikolai) is the non-satellite television viewed at a central place rather than in the home. For only three of the sites (Nikolai, Minto, and Nenana) is there access to live television broadcasts, as opposed to tapes which are mailed.

Newspapers - Only two of the ESCD sites, Valdez and Petersburg, have weekly newspapers.

A PROGRESSION OF COMMUNICATIONS ACCESS

Figure II-2 shows that 73% of the sites (11 of 15) fit on one continuous progression of communications access. By a "continuous progression" is meant a series of stages, where each successive stage builds on the previous one:

> Stage I consists of the basic four media services which each of the ESCD sites have;
>
> Stage II consists of the basic four plus public access phones;
>
> Stage III consists of Stage II plus access to public radio programming; and
>
> Stage IV consists of Stage III plus television.

Figure II-2 also shows that there are four "aberrant" ESCD sites which do not fit on the primary continuous progression. They are "aberrant" because they have access to:

> AM and/or FM radio;
> and/or
> Television,

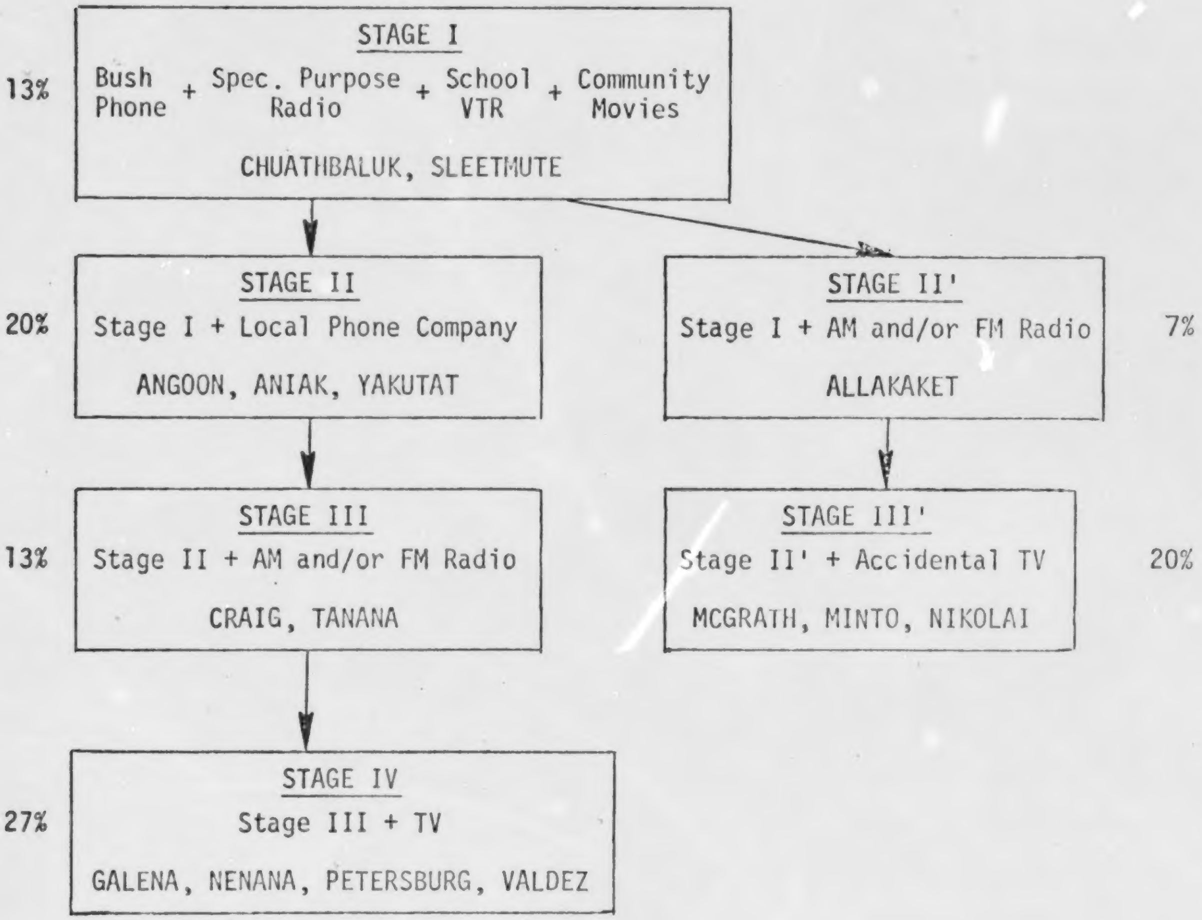
without access to public phones.

THE INCREMENT IN MEDIA ACCESS REPRESENTED BY ESCD/ALASKA

Figure II-3 shows the increment in media access represented by ESCD/Alaska in the ESCD sites. The increment varies with the amount of media access available at a site prior to ESCD/Alaska.

FIGURE II-2

CLASSIFICATION OF ESCD SITES BY STAGE OF COMMUNICATIONS DEVELOPMENT


13%
STAGE I
Bush Phone + Spec. Purpose Radio + School VTR + Community Movies
CHUATHBALUK, SLEETMUTE
20%
STAGE II
Stage I + Local Phone Company
ANGOON, ANIAK, YAKUTAT
STAGE II'
Stage I + AM and/or FM Radio
ALLAKAKET
7%
13%
STAGE III
Stage II + AM and/or FM Radio
CRAIG, TANANA
STAGE III'
Stage II' + Accidental TV
MCGRATH, MINTO, NIKOLAI
20%
27%
STAGE IV
Stage III + TV
GALENA, NENANA, PETERSBURG, VALDEZ

73% accounted for by main progression -- 6 groups

FIGURE II-3

WHAT DID ESCD/ALASKA REPRESENT IN TERMS OF INCREASED MEDIA AND COMMUNICATIONS ACCESS?

Access to ESCD programming.	All 15 sites.
Audio interaction integrated with video programming.	All 15 sites.
Access to live video.	13 sites (all but Minto and Nikolai).
Access to video transmission.	8 sites (Stages I, II, III, II').
Access to video programming.	No villages.

D. PROFILES OF ESCD COMMUNITIES AND PROFILES OF SCHOOLS AT ESCD SITES

PROFILES OF ESCD COMMUNITIES

Figure II-4 gives some basic information about the people who live at each of the ESCD sites.

The median town or village population is 272, with a range of 94 (Chuathbaluk) to 2094 (Petersburg).

The median percent of the population which is Native is 82%, with a range of 97% (Allakaket) to 15% (Petersburg and Valdez).

Six distinct Native language groups are covered by the ESCD footprint. In only two sites (Nikolai and Chuathbaluk) are the Native languages (Upper Kuskokwim Athabaskan and Yupik Eskimo) considered highly viable as measured by the number of children who speak the Native language.

Four of the sites have "traditional" forms of government, as opposed to a more "westernized" arrangement.

Figure II-4 presents the population and percent Native for each ESCD site in schematic fashion. Clearly, the higher the population, the lower the percent of the population which is Native. Figure II-5 gives a profile of the community facilities available at each ESCD site.

PROFILES OF SCHOOLS AT ESCD SITES

Figure II-6 gives some basic information about the schools at each of the ESCD sites.

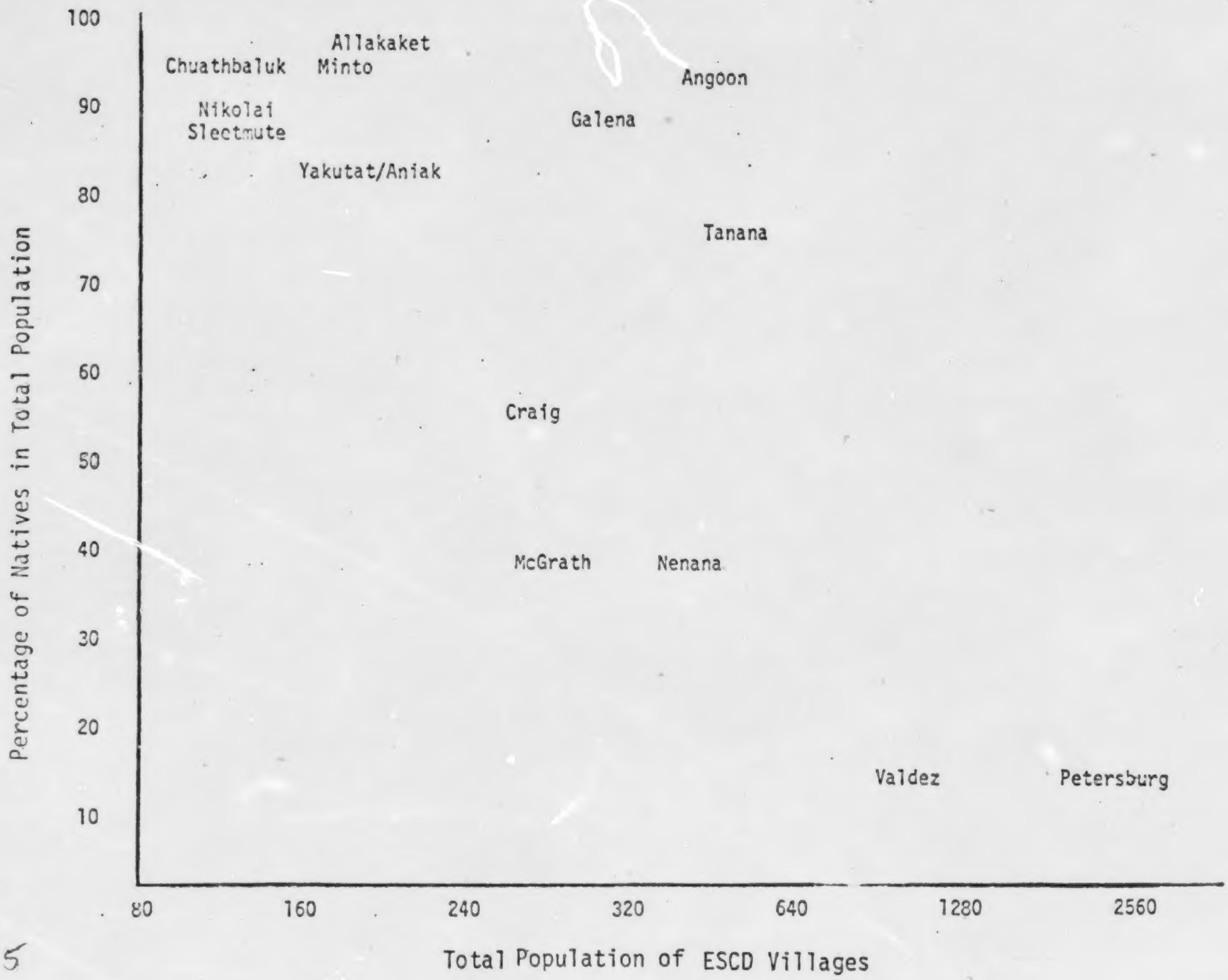


FIGURE II-4: POPULATION PROFILES OF ESCD VILLAGES

FIGURE II-5

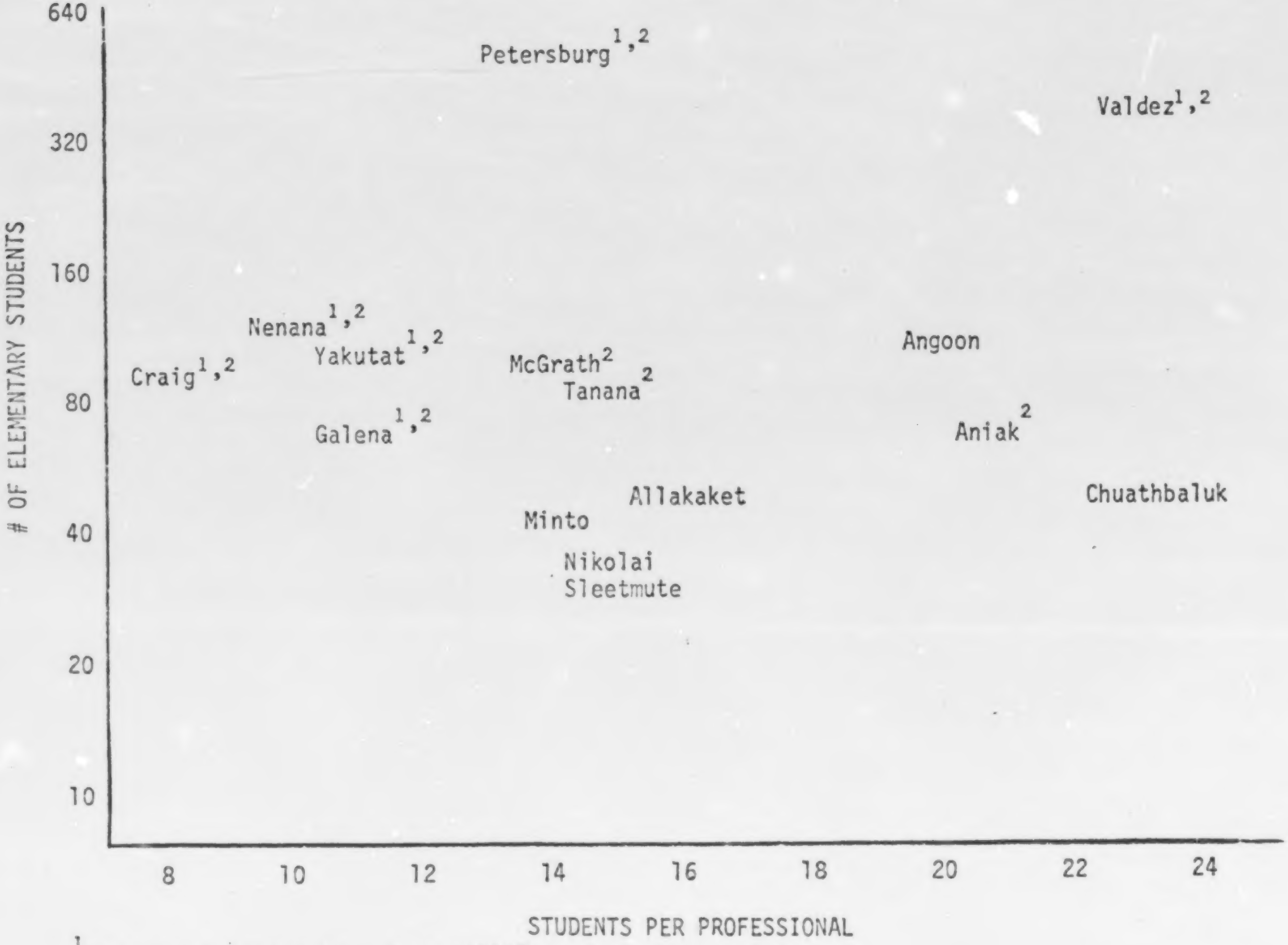
PROFILES OF COMMUNITY FACILITIES AVAILABLE AT ESCD SITES

	AIRPORT	SCHEDULED AIR SERVICE	ACCESSIBLE BY BOAT	RAIL TRANSPORTATION	TRUCK TRANSPORTATION	BUS TRANSPORTATION	NEWSPAPER	ELECTRIC POWER/ HOUSES CONNECTED	ROADS	WATER SOURCE/ SYSTEM	SEWER SYSTEM	COMMUNITY BUILDING	HOUSING UNITS*	COMMERCIAL/ INDUSTRIAL
Allakaket	3000' Gravel	Yes						None to homes, State School has own generator.	Winter trails to Hughes, Huslia, & Bettles	Surface, River community well drilled in '63; frozen up.	Privies	Yes	37; Survey data on 26	General (Community) Store, William's Store
Angoon		Yes Seaplane	City Dock, Marine Hwy., Ferry Svc.					AVEC diesel generators available to all homes.		Lake & Stranger Creek, system to 75% of homes	Community System; privies in outlying areas.		90; Survey data on 63	4 Business Places
Aniak	5000' Gravel lights & beacon civilian	3 charter services						Yes, supplied to several homes		Wells	Privies	Yes	55; Survey data on 22	Charter Service (3), N.C. Store, Kuskokwim Sales, Aniak Lodge
Chuathbaluk			Barge/Ferry Harbor, Dock Barge Svc.					None		Surface, Spring, Creek	Honey Bucket		BIA Improvement Program, 10 in 70, Survey data on 10.	
Craig		Seaplane	City float dock for large freight, boats ferry svc, from Ketchikan-Hollis			School busing for Craig-Klawock Area		Municipal Electric Co.	Local Road to Klawock, 8 miles	Surface source, system serves ½ community	System serves part of community; privies		92	Fishing & wood products industries lodge, 10 business places.
Galena	6600' Asphalt, lights & beacon	Scheduled from Fairbanks, charter svc.	Barge, no Ferry Service			Taxi Service		Private individual provides power to all homes.	Winter trails to Koyukuk, Ruby, Huslia, Rd. to Campion AFB (9 Mi.)	River, Wells, truck delivery from USAF.	Privies, septic tanks	Yes	66; Survey data on 33	**
McGrath	5600' Asphalt, lights & beacon	3 flights weekly to/ from Anchorage, charter svc, local & outside	Barge Svc.		Available thru a contractor			Northern Commercial Company	Winter trail to Nikolai, Takotna, Medfra, & winter trapping area Rd to Tatalina AFB.	Majority have individual wells, running water in homes	Privies, septic tanks	Yes	68	2 General stores, lodge, 2 bars, construction company, movie hall, Doyon Ltd., Subregional Office
Minto	2000' Gravel	Yes						AVEC generator to 39 homes	Terminus of 11 mi. road to Elliott Highway (summer only)	Distribution system to all homes.	To all homes		39; ASHA: 20 in '71; BIA: 19 in '69-'70	Minto Trading Post Minto Gas Station
Nenana	6200' Gravel, Lights & Beacon		2000' Steel Freight Dock, River Freight Distribution Center	Mile 411.7 on Alaskan RR				Golden Valley Electric Assoc.	On Fairbanks/ Anchorage Hwy 58 mi. to Fairbanks	Individual wells, Excessive mineral content & hardness.	Partial system 3 blocks; septic tanks, privies	Yes	128	Barge lines, 2 lumber companies, 3 general stores, 2 bars, 1 restaurant, roadhouse, motel/restaurant.
Nikolai	900' Turf & Earth		Barge Service					None		Surface, river, wells	Privies, honey buckets	Yes	26; Survey data on 21	1 business place
Petersburg	5000' Gravel	Daily flight & charter service	Dock for ships, Marine Hwy, Ferry		3 Trucking Companies	Taxis Available	Weekly	City of Petersburg	Local roads	Surface water to users via distribution system	City owned collection system piped throughout community.		706	Fishing & seafood processing center, wood products industry, 43 business places
Sleetmute	2000' Gravel	Charter Bush Plane	Barge Service					Private generators		River, wells	Privies	Yes	27; Survey data on 9; BIA: 10 in '69	General Store, Charter Bush Plane
Tanana	4400' Gravel 1 Mile from Town	6 Scheduled Airstops/ week	Barge Service					Available to all homes through private source.	Limited Road network to misc. sub-areas, incl. defense installation.	Community well, water hard & silty reasonably drinkable. Other wells poor quality.	Privies, Septic tanks	Yes	55 (Survey data on)	Motel, Cafe, Wien Airlines, N.C. Store
Valdez	4400' Gravel 1 Mile from Town	Yes	Rail-barge, 600' Dock, private dock svc, boat, harbor, marine Hwy, ferry.				Weekly	Copper Valley Electric Assoc. Available to all homes.	Richardson Hwy. to Alaskan road system.	Municipal utility, 10" mains, source wells, streams.	Municipal Utility, 8" to 10" mains, treatment plant		300	Bank, weekly newspaper, theater, retail-mercantile and food, trucking, marine ***
Yakutat	7800' Concrete	Daily flight north & south, Charter Svc.	3 Docks, deep water harbor		One transfer service	2 taxis		Yakutat Power Co	Local Roads	City, deep wells, Distribution system to most of community.	Privies & Septic tanks	Yes	63, Survey data on 45; ASHA: 20 in 70; BIA: 6 in '70.	Seafood harvesting & processing, 2 hotels, large timber stands nearby.

* USPHS Premise and Home Environmental Health Survey.

** 2 General Stores, coffee shop, bar, charter air service, barge service, car repair, Wien Airlines, liquor store, sawmill, electric service, snowmachine dealers (3), taxi service, telephone company.

*** Shipping and warehousing fuel distribution, fish and crab processing, charter airlines, bank.



[1] District School System [not ASOSS]

[2] There is also a high school in this village.

FIGURE II-6: PROFILES OF ESCD SCHOOLS

The median elementary school enrollment is 87, with a range of 31 (Sleetmute) to 517 (Petersburg).

Fifty percent of the sites also have high schools, with a median size of 73 and a range of 9 (Aniak) to 29 (Valdez).

The median number of professionals per student is 15, with a range of 8 (Craig) to 23 (Valdez).

Nine of the schools (60%) are part of the Alaska State Operated School System, and the rest have their own school district.

Figure II-6 presents most of the information about ESCD schools schematically. Note that there is no striking relationship between number of elementary student and the number of students per professional. Note also that the smaller schools (Minto, Chuathbaluk, Allakaket, Nikolai, Sleetmute) tend:

Not to have high schools;
Be part of the Alaska State Operated School System.

APPENDIX A: BACKGROUND PAPER ON AN ESCD VILLAGE

APPENDIX A

To provide the reader insight into the Alaskan context, we present the following description of a single "representative" village--but representative only in the sense that it is a village in Alaska. The reader can perhaps perceive that every village is a unique social, and in most cases, geographic entity.

BACKGROUND PAPER ON AN ESCD VILLAGE

INTRODUCTION

Angoon is the only village on Admiralty Island, situated directly south of Juneau on the southeastern coast of Alaska. The 1600 square mile island ranges in elevation from sea level to 7500 feet. Although snow accumulates on the mountains, the climate at sea level usually is mild and damp. Most of the island is covered with virgin timber under the jurisdiction of the Tongass National Forest, headquartered in Juneau. The 400 Tlingit Indians who reside in Angoon share the island with an estimated 1600 Alaskan brown bear and numerous deer and small game. The island also has the largest population of bald eagles in the world.

The only access to Angoon is by air or water. An air flight from Juneau or Sitka takes approximately thirty minutes. Charter service is available for about $50, and the mail plane (scheduled to fly the Angoon route three times a week) carries passengers for $20. Boats can make the trip from Juneau or Sitka in four to six hours, depending on the boat size and water conditions. There is no regular boat service to the island, although the Inland Passage ferries can be viewed as they pass by the village. The three miles of road in and around Angoon are used primarily for foot and bicycle traffic. Although several cars are parked in the village, only four operate with any regularity. They belong to the postmaster, the store owner, the Alaska Airlines representative, and the school.

Angoon is situated at the mouth of a large bay that shelters a boat harbor and a landing site for amphibious planes. The bay, extending ten miles inland, has numerous inlets that support a variety of marine life. These waterways are used by the people of Angoon for trolling, crabbing, and for gaining access to excellent hunting sites along the inland shores.

BUILDINGS AND SERVICES

In Angoon, Indians occupy sixty-one of the sixty-six homes (not including the teacherage). The five white families include a fisherman, a missionary, a homesteader, the store owner, and the airline representative. In addition, two female linguists from the Wycliffe College in England rent a house where they have lived intermittently for ten years while translating portions of the Bible into the Tlingit language.

Most of the homes in the village were built before 1940. Some were built before the turn of the century. A major new housing development project is completing its first phase and a substantial number of families have moved from their old homes by the water to new homes up on top of the hill. Other buildings in Angoon include the old school, a small general store, a town hall, a manse, and four churches (Presbyterian, Assembly of God, Russian Orthodox and Salvation Army). The churches offer different kinds of services and activities at different times, allowing the people to choose where and when they wish to attend. The churches serve the social as well as the spiritual needs of community members.

Although a few homes have telephones, the main form of communication (other than word-of-mouth), is a community bulletin board strategically located on the main pathway through the village. Messages range from the recent election results, to requests from village health aides for certain members of the community to pick up prescriptions that have just arrived by plane with the aide's admonishment that the medicine is not to be given to anyone except the person for whom it was prescribed. Also notices of clothes for sale and movies available to be seen at a particular person's home are posted.

Recreation consists of movies shown in a private home, basketball games, bingo, and strolling around town. The "main street" of Angoon is a popular place for playing and visiting during the long twilight hours.

Electricity for the village is provided by a diesel generator operated during the evening hours for varying lengths of time, depending on the amount of daylight and whether or not community activities are scheduled. The school, store, and a few homes operate their own generators on a twenty-four hour basis. Those without private generators plan their evening activities around the hours of electricity.

An unpredictable water supply is a serious problem in Angoon. Although several springs and a Public Health Service built reservoir are being utilized, the water supply is limited and the service is sporadic. The water shortage has created problems in the school where the outhouses have been removed and replaced by flush toilets.

Medical assistance in Angoon is provided by two local women trained as medical aides by the Public Health Service. They are authorized to treat minor injuries and dispense certain medical supplies and drugs. People with serious illnesses or injuries are flown to the Public Health Hospital in Sitka. A doctor comes to the school twice a year and conducts medical examinations for members of the community.

THE ECONOMY

The principal economic activity in the area is commercial fishing. Approximately fifteen trawlers and seining boats from Angoon ply the surrounding waters and deliver their catches to either the local fish buyer (a white man who lives across the bay) or to the cannery eighteen miles across Chattham Strait. Only one of the four operable seining boats ($100,000 range) is owned by a Native. This Native also owns one of the two stores in town. Most village women work in the cannery during the summer while their husbands are fishing. Since housing is available at the cannery, they move there with the children leaving the village nearly deserted for the length of the fishing season. Those men who do not own boats usually work for those who do. Increased competition from outside fishermen and a corresponding decline in the number of fish have, however, placed the Angoon economy in a precarious position. A few jobs are available in the village through the Neighborhood Youth Corps and an occasional building project (such as the new school or the new housing project).

THE TLINGIT HERITAGE

The Tlingit Indians are regarded historically as a strong and proud people with a highly developed cultural heritage. Their indigenous domain once extended along 500 miles of the North Pacific Coast. Those who remain in isolated villages, such as Angoon which has been protected from outside influence and exploitation, have been able to maintain a relatively integrated and sophisticated life style of their own. One aspect of their heritage which still plays an important part in village life is a kinship system based on clan affiliations. At birth, every child becomes a member of his mother's clan. Traditionally, marriages are not allowed among members of the same clan. However, the custom appears to be losing favor with young people returning from boarding schools where separation from the clan sufficiently weakens customary taboos.

Angoon, the central village for the Raven clan among the Tlingit people, maintains a large Raven clan house and several sub-clan houses for ceremonial purposes. Clan symbols are displayed in many homes and, in some cases, are inscribed on headstones in the cemetary. Some people still practice the Tlingit custom of placing food and water on the gravesite after burial.

Fraternal and political relationships with other native Alaskan groups are maintained through an affiliation with the Alaska Native Brotherhood. The ANB Hall, the largest building in Angoon, is used for basketball games, bingo parties, and large meetings. The Grand President of the ANB is a native of Angoon. He also was president of the Alaska State School Board. As such, he had indirect authority over the Angoon school.

ANGOON SCHOOL AND TEACHERS

The Angoon school occupies two buildings (for convenience, they will be referred to as one school) situated at opposite ends of the U-shaped community. A narrow road over the intervening hill connects the buildings. One contains the first, second, third and fourth grades. The other houses the fifth, sixth, seventh and eighth grades. Together, the two buildings serve 138 students. After completing the eighth grade, the majority of students leave Angoon for nine months each year to attend BIA boarding schools, at either Mt. Edgecumbe, near Sitka or Chemawa, near Salem, Oregon. The school which contains the first through fourth grades is the TV reception site for the ATS-6 Demonstration.

The Angoon school is operated by the State of Alaska from offices in Anchorage. A state school board is responsible for the schools directly under state control. Although each community served by the state school system has an advisory school board elected by the members of the community, the community has no direct authority over the school. It must use political pressure when advisory channels are unsuccessful in bringing about desired changes. The teachers, hired through the state office in Anchorage, are responsible only to that office.

None of the present teachers are native to Angoon. One teacher is a Tlingit Indian from Klawock, located 200 miles south of Angoon. As an Indian from a different village and lineage, and as a teacher, his relationship with the people in Angoon is necessarily limited. Although he has greater sensitivity to the people in the village than the other teachers, he avoids serious commitments in community affairs because of the untenable alliances such attachments could foster, thus reducing his autonomy as a teacher. During the school year he devotes his energies to establishing and maintaining a good teaching rapport with his students. When school is out, he takes his family and seine boat home to Klawock for a summer of fishing.

The other six teachers and the principal, who also teaches fourth and fifth grade English, are white. The only exception to this pattern is one fully certified teacher who is a native of Angoon, and who often substitutes in the lower grades. All but two of the teachers live in a new teacherage adjacent to the new school building. The minister lives in a home attached to the church, and one teacher lives in an apartment below the village store.

The teacherage is a one-story building divided into six apartments (3 on each side of a central hallway). It has a small storage and utility room with a wringer washer and a dryer. The inadequate water supply makes an automatic washer impractical.

TEACHER INVOLVEMENT WITH THE COMMUNITY

The location and design of the teacherage contributes little to the quality of teaching in Angoon. It is nearly the last building on the west end of the village with the exception of three homes situated along a footpath that winds back into the woods. Because of its location, the teachers have only limited opportunities to observe or interact with community members. Those who work in the new building simply step out of the teacherage and into the school. Those who teach in the old building take the shortest route, i.e., the path over the hill which bypasses the community. The same path also leads to the store, the only place the teachers frequent besides the post office, which is located next to the upper school. The only teachers extensively acquainted with the community are two graduates of the U. of Alaska A.R.T.C. Program who have been teaching and living in Angoon for the last five years. They are well liked by the community and treat the community with respect. Most of the teachers last only one year and some do not last beyond the first month.

The teacherage is not designed to protect the teachers from each other. The central hallway and thin walls are not conducive to privacy. With 185 days of enforced association, both in and out school, the teachers "begin to get on each other's nerves." Feeling estranged with regard to the community and boxed in with regard to each other, they tend either to isolate themselves or seek independent forms of diversion.

Some parents complained "the only reason some teachers come to Angoon is to hunt and fish. They just teach to pay their way." The enthusiasm with which some of the teachers plan their afternoon and weekend expeditions tends to support this assertion. For some teachers, hunting and fishing appear to be a means of escape from the tension and frustration they experience in the school and in the village. These activities make life bearable for those unable to establish satisfactory human relationships in the community. Few teachers in Angoon use the community as a means for diversion and escape from the school.

Several years ago, when the fifth-grade students were asked to describe their favorite teacher, almost all of them referred to a young man who had been in Angoon two years earlier. The students described how this teacher had "made the stuff interesting" and "didn't make us sit in our desks and he didn't read to us all the time." They explained "he understood us" and "he didn't make it seem like school, but we learned something anyway." He formed a Boy Scout troop and took the children on hiking and camping trips. "He even stayed in our houses sometimes."

Observations of this teacher in the school and community indicated that he was exceptionally able to relate to his students and to command their respect, as well as that of the parents and other teachers. He visited and ate in the homes of many of his students, and claimed that he tried to get to the homes of all his students at least twice a year.

Observations of his work with the students in the classroom, and with the Boy Scout group he had formed, indicated that he was highly skilled at responding to the immediate and particular needs of the children. He conducted the activities in an individualized, loosely structured atmosphere, which appeared similar to the atmosphere in the community.

In a discussion of Angoon, he related, however, that one of the reasons he left Angoon was because he had become too involved with the community. As the only teacher significantly interacting and communicating with members of the community, he was placed in a position of arbitrator regarding issues which were often irreconcilable, without major changes in attitudes that he was not in a position to affect. Also, he complained that the small size of the community made it possible for everyone to know what everyone else was doing, and eventually he became a reluctant arbiter in the internal affairs of the community. When minor disputes arose between individuals or factions he was placed in the untenable position of satisfying one or the other side or neither side. These pressures, coupled with the lack of interest of his colleagues, eventually forced him to leave Angoon.

COMMUNITY INVOLVEMENT WITH THE SCHOOL

Prior to State take-over of the school when Alaska was granted statehood, the Angoon community operated its own public school. Teachers were hired by a locally elected school board that had full authority over school affairs. When certified teachers were unavailable, the board hired local people to perform the teaching duties. (A number of the present parents in Angoon taught in the school at that time.) However, when state certification requirements were established, the school was unable to meet the new requirements, and the community was forced to relinquish its authority.

Although they lost control of the school, residents of the community did not lose interest in it. In fact, the present principal of the school described community intervention in the school as "out-of-control" when he first arrived. Two or three members of the local ANB education committee "would come to the school once a week to talk to the students about things like drinking and smoking, and then go out the door and light up a cigarette." Besides being inconsistent, they also "disrupted the classes and got the teachers upset." To alleviate the "problem," the principal discouraged parental activities at the school during the day and effectively ended the visits of the committee members. Instead of directing the interests of the committee into constructive activities compatible with the interests of the school, the principal removed what he perceived to be a disruption of the status quo. When asked what had kept him in Angoon for eight years, the principal replied, "good hunting and fishing."

Although Indian parents want to help, the teachers cannot accept them as partners in their endeavors because they perceive them to be the cause of many of the children's problems. The teachers indicated they are trying to save the children from the parents. Their attitudes towards parents are expressed in the following responses to the question, "As you see it, what are the major problems of the Indian people of this area?"

Responses included:

- The first problem is welfare. If a person is given something free, they expect it free. Welfare should be given with some work attached to it.
- Dependency on government aid. They stay up nights thinking of ways to get one of those checks.
- They are lazy. They have no ambition. The way their houses are inside -- a big mess.
- The adults first need to gain a sense of responsibility.
- They drink alcohol. This influences the whole family. It is a general blight on the whole society -- economic standards are upset. Angoon is somewhat of a haven for alcohol consumption.

With this kind of perspective toward the parents and the community, the teachers are usually not in a frame of mind to accept help from community members. Teachers tend to perceive themselves as the helpers and the parents and children as the beneficiaries.

When the teachers ask the parents to support the school, they do not usually mean that parents should actually participate in school activities. They seem to mean, instead, that parents should accept the goals of the school and respond to its expectations regarding the achievement of those goals. Parents are generally not expected to take the initiative because they are thought to lack initiative. The teachers are in command and they decide what is best in terms of the children's education.

CULTURE CLASH I

Differences in orientation between the school and the community can be further illustrated with regard to the concept of "time." The community operates on "Indian time"; the school operates on clock time.

Indian time is synchronized with ecological conditions and the immediate concerns of the Indian people. It is oriented to the sun, the tides, the seasons, and the individual. During fishing season, a day's work is determined by the tides and the location of fish runs and may involve eight or thirty-eight clock hours. During the winter, a day's work is determined by the weather and the amount of wood necessary to keep warm.

Located at a latitude of 58° North, Angoon experiences variation in daylight from five hours per day in the winter to twenty hours per day in the summer. In the spring, the sun sets gradually at an angle to the horizon at this latitude, and the evenings offer a protracted sunset and twilight period which few people are willing to miss. Adults stroll leisurely through the village and children ride bicycles or play on the beach until it gets dark. Activity in the village often extends past midnight. The people prefer to stay up and enjoy the evenings and then sleep late in the mornings.

The school, however, operates as usual on an 8 to 3 schedule governed by the clock, except for the adjustment to daylight savings time that has little meaning when the days are already eighteen hours long and getting longer. Although the teachers complain about the drowsiness, tardiness, and poor attendance of their students, they maintain the 8-3 schedule because it allows them a full eight hours of daylight after school to pursue their personal activities. In fact, the principal related that he had approached the advisory school board "to ask if we could change the school hours to an hour earlier so that we would have more time for ourselves in the afternoon, but they turned it down." The principal and teachers wanted to adjust the school time to suit their convenience, which could be done only at the expense of the community's convenience.

CULTURE CLASH II

The Angoon school has made some effort to recognize the unique aspects of the population it serves. A "totem pole" has been erected in front of the new school building. The pole was carved as a class project under the direction of one of the teachers. Contrary to his expectations, the carving has not been enthusiastically received by the community. The teacher's explanation for the poor response is "the people aren't interested in the old ways anymore."

Questioning of community members revealed the inadequacy of the teacher's explanation. The Indians viewed the pole simply as a carving and not as a "totem pole." An old man explained: "In the old days, totem poles were

Tlingits' way of telling a story." They were carved to symbolically represent a particular legend or record an event. Each pole told a story that had meaning to anyone who knew how to read the symbols. Figures on the poles were linked to specific clans and could be used only in prescribed ways. Totem poles were an important element in traditional Tlingit culture: their meaning and significance has not been forgotten, even though none remains in the village today.

The carving in front of the school does not qualify as a totem pole: it has no coherent design, does not depict any event or legend, does not adhere to any prescribed format, and is not even a replica. It is "just a carving." The old man summarized his feeling toward the pole with a phrase he attributed to one of his former teachers: "Fools who don't understand can only engage in mockery." Thus, due to the teacher's lack of understanding, what was intended to be a symbol of recognition became a vexation.

CULTURE CLASH III - BASIC ASSUMPTIONS

General assumptions that underlie schooling provide a basic difference in orientation between teachers and students. Motivation and achievement in school rely heavily on a temporal orientation: work hard and you will get a better job, someday; if you don't pass, you will have to take the class over next year; only eight years and you can graduate and go on to high school; you failed because you haven't shown any improvement since you started. All of these commonly heard statements, together with concepts such as "progress," "change," and "planning" imply a time perspective.

Evidence that the Angoon students do not appreciate the temporal significance of schooling is provided in teachers' responses to the question "what are some qualities (of good students) that you feel Indian students need help with?"

- They need to see the value of education.
- They need to plan ahead.
- Punctuality -- it doesn't mean anything to be late or to miss a day.

- Perseverance -- they have to learn to keep working until they get the job done.
- They have to learn how to utilize their time.

Each of these responses indicates a lack of concern for time on the part of the students in terms of what is desired by the teacher.

In response to the question, "What do you think your Indian pupils enjoy most at school?" teachers list subjects and activities that reflect the students' disregard for long-range endeavors and their interest in activities of immediate significance and reward.

- Different types of games;
- Music, singing;
- Listening to stories;
- Group work;
- Anything they can do;
- Recess -- the play activities;
- Copying poems and drawing pictures;
- Reading for enjoyment;
- Science, if we do an experiment.

On the other hand, the subjects and activities that the students were said to least enjoy are those that offer the least immediate satisfaction:

- Phonics, spelling, English;
- Social studies -- it's really foreign to them;
- Writing sentences from the board;
- Math -- they can learn the formulas but they don't go for the abstract relationships;
- Anything where they have a time limit;
- They don't like to be restricted -- they like a loose kind of existence.

"A loose kind of existence" implies an orientation to the present -- an openness and responsiveness to the circumstances of the moment. Instead of worrying about what they are going to do next year, the students seek opportunities for enjoying today. There are too many uncertainties to make the consideration of tomorrow a worthwhile endeavor, particularly with regard to the school: the teachers' grading policies are unexplainable and therefore unpredictable, the barrage of subject matter presented in the school seldom adds up to anything coherent and understandable; each year brings a new teacher who has his own rules and expectations, which are often different from those of previous teachers. The best way to accommodate to all of these uncertainties is to stay "loose."

The students confirmed the teachers' impressions regarding their lack of concern for time when they respond to the question, "What do you want to do when you get out of school?" Most of the students said they did not know or they had not thought about it. Those who did offer an answer did so only in vague terms, such as "get a job" or "try to do some fishing." Since opportunities for employment are limited in Angoon and the world outside Angoon is known only through vicarious experience, again, the best way for students to prepare for what lies ahead is to stay "loose."

To the extent that the children in Angoon retain the kind of temporal perspective described above, they are unable to enter into the motivational framework of the school. As long as teachers continue to view the students' difficulties in school as the result of a deficiency rather than a difference, they will continue to experience frustration and failure in their efforts.

CULTURE CLASH IV - CURRICULUM

Some of the Angoon teachers express an awareness of the inadequacy of the present curriculum when they respond to the question, "What do you believe explains the higher-than-average dropout rate for Indian children?"

- There is a need to develop more appropriate materials for use in communities such as this one.

- Teachers don't stay around long enough to develop appropriate materials.
- Something happens around fourth or fifth grade that makes them lose interest. Maybe they begin to see the irrelevancy of what's taught.
- The curriculum needs to be oriented to the child, not the child to the curriculum.

Although these teachers concede that the curriculum is inadequate, they have not made any significant attempts to improve it. Five of the seven teachers referred to the state curriculum guide when asked about curriculum development and indicated, "the state has set guidelines and we are supposed to meet them." Deficiencies in the curriculum are recognized, but the teachers attribute the responsibility for solutions to the state.

TOTEM POLE II

A recent attempt to include locally oriented materials in the Angoon school curriculum (besides the "totem") is the first-grade teacher's participation in the Alaskan Reader Program. This program is sponsored by the Northwest Regional Educational Laboratory in Portland, Oregon, and the Alaska Rural Schools Project at the University of Alaska. The reading materials were developed with the environmental conditions of the Alaskan Native students in mind, and teachers have been specially trained in their use.

The first-grade teacher however, has expressed disappointment in the response of her Angoon students to the materials. Although she considers the Alaskan Readers technically superior to previous readers, she has not noticed any significant change in the students' reading habits. Her explanation is that the materials are oriented to Alaska, rather than to Angoon or the Tlingits. As a result, the Angoon students are reading about Eskimo children with dog sleds on the tundra, which are as foreign to them as a fire truck or a farm.

The variety of native groups in Alaska makes it impossible to develop a single reader that will be equally appropriate throughout the state. The climate and terrain in Northwest Alaska is vastly different from that in Southeast Alaska. Consequently, the ecological and cultural orientation of the Eskimo is different from that of the Tlingit Indian. To develop a program based on their common legal status as "Alaskan Natives" is to disregard their unique cultural attachments. Although the proponents of the Alaskan Reader proclaim it to be "conceptually relevant," it cannot be as long as it is an "Alaskan" Reader.

Whether the Angoon students are reading about dog sleds or fire trucks, they are reading about things outside of their experience, and to the extent that concepts are linked to experience, such materials are not relevant. In addition, even if locally familiar items are introduced in the reader, if they are not oriented to the particular conceptual framework of the local people, they also are not relevant, just as the carving was not relevant as a "totem pole." Although the Alaskan Reader offers a technically superior reading program, it does not satisfy the criteria for conceptual relevance.

SECTION III

USER REACTION TO ESCD/ALASKA & IMPLICATIONS FOR THE FUTURE

A. ESCD/ALASKA: AN EXERCISE IN CONSUMER EDUCATION

One way to think about a demonstration such as ESCD/Alaska is as a probe or litmus in advance of irreversible technological progress to find out how the technology can be used to benefit the users. In this section, the objective is to prepare for a future in rural Alaska when television -- perhaps satellite television -- may be pervasive and commonplace.

The basis for the projections toward the future presented in this section are comments by village level users of satellite television as offered them by the Educational Satellite Communications Demonstration (ESCD) in Alaska. The comments should be thought of as an in-depth discussion by educated consumers about an impending product, where the product is educational satellite television.

The purpose here is not to predict the future, but rather to prepare for it. It is enormously difficult to predict the impact of technological innovation. Who would have predicted the effect of the automobile on all facets of American life from the vantage point of the Model T Ford? And do you remember how when television first became commercially important, it was a boom to neighborhood saloons, because "the average household couldn't afford a T.V."?

B. A PYRAMID

This section of the First Annual Report on ESCD/Alaska can be thought of as a pyramid where:

- The base is formed by comments made by village level participants in ESCD;
- The sides are formed by 40 findings based on the comments;
- The apex consists of 13 recommendations for the future based on those findings.

Additional structure is given to the pyramid by the sociological and communications context of ESCD/Alaska presented in Section II.

You will note that this whole section is built around figures which contain findings and evidence. The findings are the above-mentioned sides to the pyramid, and the evidence forms the above-mentioned base. Recommendations, or the apex to the pyramid, are interspersed throughout this section, and they are summarized and reorganized at the end of this section (see pages III-117 thru III-120).

1. The Base of the Pyramid

The comments which form the bulk of the evidence on which the pyramid is built come from four basic sources:

- Reports by and interviews with Native residents of ESCD villages;
- Comments made by Consumer Committee members at an Evaluation Conference held on May 29-31, 1975;
- Comments made at the conference by Utilization Aides;
- Comments made at the conference by teachers from ESCD sites.

A compendium of all comments made by the above informants is included in Volume II, Section II of this report. Readers are invited to check the findings and evidence presented in this section against the compendium of all comments:

- To verify the findings;
- To look for new findings.

2. How Were the Comments Elicited?

The best way to describe the manner in which the comments were elicited is to present the instructions under which the comments were volunteered.

A detailed account of how the comments were generated is presented along with the compendium. A summary is also presented in the following paragraphs. The strategy was to give ESCD users a forum to express themselves on ESCD, on satellite television, and on the future of telecommunications in rural Alaska.

3. Native Interviewers-Reporters

Native interviewers and report writers were given the following general instructions:

> In general terms, the assignment I gave you was to record the reaction among residents of _____ to the satellite TV demonstration. If satellite TV is to meet the needs of people in the bush--and of Native Alaskans in particular--then we have got to know what people in places like ______ think about the demonstration, and about satellite TV in general.
>
> Your job, then, is to find out what parents, children, the community in general and teachers are saying and thinking about:
>
> - The "Right On" health program;
> - The Basic Oral Language Development program;
> - The Alaska Native Magazine;
> - Satellite Television in general.
>
> In addition we are interested in how the people of ____ would like to see satellite TV used, or how they would use it themselves.
>
> Basic ways to find out the above are:
>
> - Keep your eyes and ears open and jot down things people say;
> - Actively talk to parents, children, the community in general, and teachers.

4. The Evaluation Conference

Participants at the ESCD Evaluation Conference were given the following general instructions:

May 27, 1975

Alaska ATS-6 Education Demonstration Evaluation Conference, May 29-31, 1975, Anchorage Westward Hotel

INTRODUCTION

The purposes of this conference are:

- To learn what happened during the ATS-6 satellite TV demonstration in Alaska, and
- To make recommendations about the future use of satellites and TV in rural Alaska.

You have been invited because you were involved in the demonstration; you are experts on what happened. Also you all represent people who should determine the future of satellites and TV in Alaska.

We will ask you to meet as three groups: Consumer committee members, utilization aides, and teachers. To help you accomplish the two purposes of the conference, we will provide you with "discussion questions." Please add additional questions you think are important.

We suggest that the first part of the conference (until noon Friday) be spent discussing what happened during the demonstration, and that the remainder of the meeting be spent on recommendations for the future.

5. Discussion Questions

Both the interviewer-reporters and the participants at the Evaluation Conference were given sets of questions to answer, which are included as an appendix to this section. The questions served only as a stimulus for discussion, and were not followed in point-by-point manner. More often than not, there were digressions, questions were skipped, questions were added, and questions were addressed out of order.

6. Relative Representation of ESCD Sites

Table III-1 shows the relative representation of ESCD sites in "User Reaction to ESCD/Alaska." "User Reaction to ESCD/Alaska" refers to the evidence portions of this section, and to the compendium of user reaction presented in Volume II.

Table III-1
RELATIVE REPRESENTATION OF ESCD SITES
IN "USER REACTION TO ESCD"

	TYPES OF RESPONDENTS					
SITE REPRESENTED	INTERVIEWER/REPORTER	UTILIZATION AIDE	CONSUMER COMMITTEE	TEACHER	TOTAL	OVERLAPS
Allakaket	1	1		1	3	1
Angoon		1		1	2	
Aniak	1	1	1	1	4	
Chauthbaluk	1	1	1		3	1
Craig						
Galena		1	1		2	
McGrath			1	1	2	
Minto		1			1	
Nenana						
Nikolai		1			1	
Petersburg		1	1		2	
Sleetmute		1	1		2	
Tanana	2		1		3	1
Valdez			1		1	
Yakutat						
TOTAL PEOPLE	5	9	8	4	26	3

= 23 Independent Responses

Sites ranked by amount of representation are as follows:

Representatives	Site
4	Aniak
3	Allakaket, Chauthbaluk, Tanana
2	Angoon, Galena, McGrath, Petersburg, Sleetmute
1	Minto, Nikolai, Valdez
0	Craig, Nenana, Yakutat

For Allakaket, Chauthbaluk, and Tanana, there are less individuals in the representation because of overlaps (see Table III-1); the reporter-interviewer also attended the Evaluation Conference as a Utilization Aide or Consumer Committee member.

For brief descriptions of the villages represented, refer to Figures I-1 through I-2 in Section I of this volume. There is no obvious difference between sites represented in "User Reaction to ESCD" and the ESCD sites taken as a whole. The full variety of communications, education, cultural, and sociological situations covered by the ESCD/Alaska "footprint" seems to be represented in the groups supplying "User Reaction to ESCD/Alaska."

The only representation over which the study team had control was via selection of the villages for hiring interviewer-reporters. The villages chosen were:

- Aniak, Tanana, Chauthbaluk, and Allakaket.

They were chosen because they represent varying educational situations, and they are widely distributed geographically and culturally. For example:

- Aniak and Tanana have new high schools, but Allakaket and Chauthbaluk do not;
- Aniak and Chauthbaluk are Southwestern, mainly Yupik Eskimo villages;
- Tanana and Allakaket are interior, mainly Athabaskan Indian villages.

7. The Information Base

"User Reaction to ESCD/Alaska" is based on:

- 12 reports written by Native interviewer-reporters who are residents of ESCD sites;
- 10 interview visits by study team members to ESCD sites to meet with the interviewer-reporter;
- Approximately 7 hours of taped discussion by Utilization Aides who met at the May 29-31 Evaluation Conference;
- Approximately 7 hours of taped discussion by Consumer Committee members who met at the Evaluation Conference;
- Approximately 7 hours of taped discussion by teachers from ESCD sites who met at the Evaluation Conference.

A compendium of all the comments from the above sources on:

- ESCD/Alaska;
- Satellite Television;
- The Future of Telecommunications in Rural Alaska/

are included in Volume II of this report.

8. The Sides of the Pyramid

The sides of the pyramid formed by "User Reaction to ESCD/Alaska and Implications for the Future" consist of 39 findings based on comments by ESCD users. Each finding summarizes the body of comments which support it.

Arriving at findings on the basis of disorganized verbal data is not a purely systematic, scientific process. In Section II of Volume II, a compendium of user reaction to ESCD/Alaska is included for the purpose of allowing readers to verify findings, look for opposing findings, and formulate new ones.

The basic procedure in arriving at findings was to locate areas of consensus or near consensus on what happened during the demonstration, for example:

- What do people say about Alaska Native Magazine attendance?
- What do people say about how interaction worked?
- What do people say about what happened at Consumer Committee meetings?

Whenever a viewpoint on one side of an issue was found (predicted impact of television on rural Alaska, for example, in Figures III-4, and III-5), effort was made to find evidence of an opposite viewpoint.

"User Reaction to ESCD/Alaska" does not profess to be an opinion survey. The findings never profess to estimate how many, or what percent of people in Alaska feel a certain way.

The discussion of "User Reaction to ESCD/Alaska and Implications for the Future" had been organized around three pillar questions:

I. What requirements do rural Alaskans place on a television system?

II. How can control of Alaskan rural media be delivered to the villages?

III. What lessons have been learned from the ESCD experience about programming for rural Alaska?

An outline of the issues addressed is as follows:

I. What requirements do rural Alaskans place on a television system?

    A. What is the demand for television in rural Alaska?

    B. What is the predicted effect of extensive television on rural Alaska?

    C. What is the reaction to the temporariness of satellite television demonstration?

    D. What is the reaction to placing television sets only in village schools?

    E. Real-time viewing and live interaction versus videotaping and scheduling flexibility.

    F. State-wide versus regional television networks.

II. How can control of Alaskan rural media be delivered to the villages?

    A. Native participation as professionals in planning, programming, production, and broadcasting;

    B. Village control of how money is spent on media services to rural villages;

    C. Day-to-day management and monitoring of media services in rural Alaska.

III. Lessons learned about programming:

    A. Culturally relevant programming;

    B. Educational television and rural high schools.

9. The Apex of the Pyramid

The procedure for deriving recommendations for the future from findings based on user reaction to ESCD/Alaska is difficult to generalize about, and must be described instance-by-instance. Part D of this section serves precisely the function of describing derivation of recommendations. The purpose of this discussion is to explain how 39 findings were boiled down and combined with information about Alaska's current sociology, economics, communications, and educational system to form 13 recommendations.

Recommendations for the future derived from user reaction to ESCD/Alaska are organized around the three pillar questions as follows (see Section II-D):

- I. Satellite Television and the Media Requirements of Rural Alaska:
  - A. Criteria for Investment in Satellite Television;
  - B. Mandatory Components of a Satellite Television System;
  - C. Necessary Complements to a Satellite Television System.
- II. Control of Alaska's Rural Media by the Villages:
  - A. A Strategy for Developing Alaskan Native Programming Capability;
  - B. A Strategy for Giving Consumers Veto/Approval Control over Media Services;
  - C. A Plan for Day-to-Day Management and Monitoring of Media Service to Rural Alaskan Villages.
- III. Lessons Learned about Programming for Rural Alaska:
  - A. Strategies for Allocating Programming Resources;
  - B. Specific Areas for Future Programming.

C. ESCD/ALASKA ANSWERS TO THREE PILLAR QUESTIONS

1. What Requirements Do Rural Alaskans Place on a Television System?

a. What is the Demand for Television in Rural Alaska?

In order to place in perspective a discussion of satellite TV in the future of rural Alaska, it is necessary to first pay some attention to how TV, in general, fits into the structure of village life.

In the previous section we have already seen how television is reaching rural Alaska by various nonsatellite means. The question addressed here, from the vantage point of user reaction to ESCD, is whether people in rural Alaska want television.

Whether people want television is complex and has at least the following parts:

- Will they watch it if given the chance?
- Do they think having access to television is a good idea?

Whether people will watch television if given the chance, will be called demand for television. Whether people think television is a good idea will be called predicted effect of television.

(1) Demand for Home-Versus-Centralized Viewing

The one opportunity presented by ESCD/Alaska to measure demand for television was the Alaska Native Magazine. Viewing of this program was optional. Figure II-1 shows that ANM can get high attendance and produce programs that village audiences appreciate. However, Figure III-2 shows that the number of viewers was, in general, low. Figure III-3 indicates that consistently high attendance occurs only when watching television is incorporated into village social life.

FIGURE III-1

finding:

Programs like the Alaska Native Magazine can get high attendance and produce programs Alaskan villagers appreciate.

evidence:

Reports by and interviews with Native Residents of ESCD villages:

- The people I talked to enjoy satellite TV;
- The programs have been pretty good lately (May '75);
- Everyone seems fairly happy about the programs;
- The real interesting thing we saw on TV is the dog racers that went to Nome, and we hope to see them again some time;
- The people that saw the Russian Christmas on TV were very excited about it;
- After they saw Russian Orthodox Christmas people came to see themselves;
- The second week of January was a week of celebration of the Russian Orthodox Christmas; the thing that was so exciting was the visitors from the Alaska Native Magazine -- Molly McCammon, Mark Badger, Richard Kahn. Everyone was at the new gym in Aniak waiting for the singers to get here from Chuathbaluk to celebrate the event at the gym. While waiting for the crew from ANM to set up their cameras to take movies of the event, I explained to the people that were wondering what was going on that they were going to be on TV when the crew returned to Fairbanks and made the film into movies. Everyone was so excited. We got word that the movies on the Orthodox Christmas will be on TV next Tuesday, February 4. Things like this will gather a crowd to watch TV;
- I am looking forward to seeing next week's program; I think it will be the one the three people made;
- There was some guys that came to take some pictures for TV and everybody seemed excited about it. That was last month during Russian Christmas;
- I would like to see the film again about the whale hunting. It was very interesting and the people that were there enjoyed it very much since we never see whale hunting;
- The one last night was good about Emily Brown. The shows I've seen lately were real good maybe because they were Eskimos;
- We liked the Eskimo dancers from King island;
- We enjoyed seeing the different lifestyles of different villages in Alaska. Also the Dog races were a big hit -- too bad they couldn't have more coverage.

Utilization Aide comments:

- Galena had a big turnout when they showed the Tanana Carnival;
- We liked a lot of the dog race shows;
- One program I really enjoyed they borrowed from some TV station. It was about the Eskimo way of life. They should bring in a lot of things like that;
- After Moses mentioned the name of someone who was going to be on the next show, her relatives showed up and their relatives showed up. It really helped;
- I liked that interview with the Eskimo lady. The old, old lady;
- I saw progress throughout the year. They did improve;
- The last 8 months were an improvement after the Consumer Committee meeting in April. I think they should have pulled in more village representatives.

Consumer Committee comments:

- Sometimes we'd have 200 TV sets watching Native News (by cable);
- When they had something on dog racing there was almost 150 people in one room.

FIGURE III-2

finding:

Attendance figures for the Alaska Native Magazine were kept only sporadically. However, comments by ESCD participants indicate that attendance was, in general, low.

evidence:

Reports by and Interviews with Native Residents of ESCD Villages:

The reason why there are hardly any people watching TV is they started going to bingo in _____ on Tuesday nights.

As the evenings get longer you'd expect more people on TV nights. But then there's bingo and movies that night.

The turnout for the Alaska Native Magazine has been poor with the exception of one night when films were shown of the U.S. Coast Guard bombarding our village. That brought 30 or 40 people.

Utilization Aide Comments:

Attendance ranged from 0 to 50. Mostly we had low attendance.

I was always there all by myself. (A town that has cable TV)

We averaged about 5 people.

At first I had the best turnout, but after that I had only about 5.

Consumer Committee Comments:

On special program nights it would be full. But over half the time we had only the Utilization Aide sitting there with the TV.

When we had the "Limited Entry" program there were 22 people, and they all walked out.

They weren't interested in the Native Magazine. For the most part they didn't show up. The last six weeks I was there alone. The Utilization Aide quit and I took her place. (A town with cable TV)

We lost all the viewers by February, and we had a heck of a time getting them back.

The one program where there was a big turnout they couldn't get the program.

At first we had no one but the Utilization Aide. And then 3 people came. And then a family with 13 in the family started coming. Usually they brought half the kids. I think they came because the Utilization Aide brought goodies.

When people found out it was more of a lecture show, people dropped out.

People just weren't turned on about it. I asked the lady who did come if she thought other people in town knew about it. She said, "Yes, they just don't care."

Teacher Comments:

At first there were a dozen or so at the Alaska Native Magazine. Then that just died off when they switched bingo night.

There'd be about 4 or 5 at the school. I don't know how many watched at the hospital.

There was always a small core of viewers.

FIGURE III-3

finding:

Consistently high attendance at adult programs like the Alaska Native Magazine occurs only when the event is incorporated into the village social life. (This applies to centralized viewing, not to home viewing.)

evidence:

The following comments come from the only village we know of where there was consistently high attendance at the Alaska Native Magazine:

- Everyone in the village goes to the Alaska Native Magazine and the coffee hour. It is followed by a movie, and sometimes they serve popcorn.
- One night there was no coffee hour, but people came anyway.
- Everyone in the village goes to every community activity.
- Once a week was all that we watched.
- The satellite TV did not change life in the village for the adults -- it was just some added amusement or a time to sit and visit together.

The following comments come from villages where there was, in general, consistently low Alaska Native Magazine attendance:

- Different villages have different activities each night such as bingo, movies in some villages every night, etc.
- There's always something else going on, like basketball.
- I wonder if the program couldn't be moved to Thursday night since all the weeks seem to be busy except Thursday night.
- Run re-runs, or shift Native Magazine.
- The reason why there are hardly any people watching TV here is they started going to bingo in ____ on Tuesday nights.
- I think there should be more nights to watch TV.
- The show on whaling had quite a crowd, but most people left when it got closer to movie time.
- As the evenings get longer, you'd expect more people on TV night. But then there's bingo and movies that night.

Teacher Comments:

Bingo is really a popular sport or activity. Chauthbaluk is only 10 or 12 miles up river, within snow-machine distance. Two nights a week there's bingo in Aniak and then another two nights there's bingo in Chauthbaluk. So bingo players can play bingo 4 nights a week. Between the movies and bingo very few come to see TV. It is not a major social event.

Monday and Wednesday nights are meeting nights. We didn't have problems on Tuesday night.

We wanted to have the Halloween program a certain night. "Absolutely not. That's bingo night." I don't know what's going to happen. I think Christmas falls on bingo night this year.

A conclusive finding of the two studies of home TV in rural Alaska summarized elsewhere in this report (see Section IV) is that there is an appetite in rural Alaska for home television. The Project Wales Study showed 3.36 hours of viewing per household.* The study of Mini-TV showed that, of their own accord and at their own expense, villages increased programming hours over those originally planned by a factor of two (from 4 to 8 hours per day).

(2) A Contradiction

The apparent contradiction between Project Wales and Mini-TV on the one hand, and ESCD/Alaska on the other, raises several questions:

- Was it the programming that caused the difference?

  or

- Was it because ESCD was perceived as only temporary?

  or

- Was it placement of the TV in the school rather than in a place more closely identified with the Native Community?

  or

- Was it placement of the TV set outside the home in a centralized place?

There is evidence for the first three (see Figures III-4, III-5, and III-7). However, a safe guess is that placement of the television outside the home was also important. It takes more effort to go to a centralized place to watch television than it does to merely flick a switch.

The weight of the evidence, then, says that demand for home television in rural Alaska is high. However the verdict is still out on whether there is high demand for television in a centralized place within the village.

---

* R.J. Madigas and W. Jack Peterson.

b. What is the Predicted Effect of Television on Rural Alaska?

(1) Controversy

In spite of the apparent high demand for home television in rural Alaska, there is still controversy over its merits. It is possible for there simultaneously to be high demand for television, and negative effects on village life. In fact, two of the findings based on user reaction to ESCD reflect the controversy over television's merits (see Figures III-4 and III-5):

- Some village residents see extensive television as having a positive, or at worst, neutral effect on village life;
- Some village residents see extensive television as being ruinous to the Native ways of life.

The lack of many very positive comments about TV impact should not be surprising in view of the currently fashionable practice in the "lower 48" of attributing all manner of evil to our "TV culture." In the lower 48 we have high demand for television, but in general a low (public, at least) opinion of its merits. The same seems to be true in rural Alaska. Note that most of the concern about negative television impact, as expressed in "User Reaction to ESCD/Alaska," stems from the fear that villagers will like TV too much.

(2) Two Studies of Home Television impact

The two studies of rural Alaskan home TV, referred to previously, shed light on the controversy about television impact (for details see Mini-TV Mini-TV and Project Wales in Section IV). There appear to be some evidence to support both side of the controversy.

FIGURE III-4

finding:

Some village residents see extensive television as having a positive or, at worst, neutral effect on village life.

evidence:

Reports by and interviews with Native Residents of ESCD villages:

- People would be interested for a while, but like everything else it would get old.
- I believe that after most people got accustomed to a TV in their homes, not much of a change would be seen. They would most likely return to the type of life they led before receiving a TV.
- Galena has Air Force TV, but life and people are about the same.
- A TV in every home would surely change things if they could watch programs like those shown on NBC, etc. It may make a big change in the lifestyles of some people for a brief period and then wear off.
- Other than picking up some of the slang and jokes used on TV I don't feel it would change the people's language. The people in ______ get to see quite a number of movies so this should not be all that new.
- They'd block out the commercials.
- It would keep children home with something to watch. Parents would save a little money since the price of a movie is getting so high like everything else.

Utilization Aide comments:

- They're going to have to learn other ways of life. And TV would introduce these. How many kids leave the village and can't get used to another way of life and feel they're a failure and come back?
- TV would not destroy the Native way of life. It would benefit those who wanted it, but would not affect those that wanted to continue their life style.
- TV would not be much different from movies. It would keep the kids out of trouble.
- In Nikolai (where they get Anchorage and Tatalina TV in the village center) there's no change, but the kids stay up late.
- The TV will be positive or negative, according to how it's used.

Teacher's comments:

It seems to me that TV would actually bring the family back into the house, rather than the children doing their own thing. I tend to debate the people that say the villages have a real family type atmosphere.

FIGURE III-5

finding:

Some village residents see extensive TV as being ruinous to the Native ways of life.

evidence:

Reports by and interviews with Native Residents of ESCD villages:

- I don't think we need TV in remote villages like ours. Our life style would be destroyed, and I believe we would turn to welfare, etc., all bad. Sewing would be neglected and sled making and all the necessary things that still go on in our village to make it the village it is now.
- Maybe some homes would be able to limit when a set could be watched -- but very few. Going to camp and living close to nature is more our style instead of depending on the tube to entertain us and make up our minds for us.
- Our life style is changing so rapidly as it is without more monkey wrenches thrown in. People still go visiting with each other -- play bingo, have potlatches, etc. TV would have nothing but a bad effect on our village. It baffles me every time I think of people being scared of something different. Variety is more interesting. Why does the minority have to be bowled over by the dominating group?
- We like the way we live and would like to remain as such for as little time as we have left. We know that more changes will take place. What the dominating society calls progress is complete ruin to our life style.
- TV in every home would ruin the social life. People wouldn't go visiting.
- Kids used to walk to ___ to go to the movies, and I set up movies here so they wouldn't run away or get lost. I am afraid the same thing will happen if they get TV and we don't.

Teacher comments:

- I see this big thrust from GOT about video in remote villages, and I wonder if anybody's asking questions like "How is it going to affect the villages?" TV personally, I think, is a real waste of time unless you have specific goals in mind. To just sit and watch TV...some villages are lost lock, stock and barrel into the cultural transition anyway.
- In Metlakatla (a village in southeastern Alaska) they set up a TV on a mountain and they get CBC-TV from Canada live. It was interesting to hear comments about it around town. There used to be really strong musical interest. The two churches would have choirs at mass and full-fledged concerts at Christmas time. Complaints were that before we had TV everybody came to choir practice, but now we don't get the kind of involvement we had before. Old people's perception was that TV diminished the cohesiveness of the community.

Utilization Aide comments:

One college student in a correspondence course says she would turn on the boob tube instead of doing her studies if there were TV all the time.

Effects regarded as positive were:

- Reduction in law enforcement problems related to alcohol and vandalism;
- Increase in some kinds of verbal intelligence. To quote from the Mini-TV report:

> "Our tentative conclusion is that TV exposure increased verbal intelligence as measured by verbal associations but it did not have an effect on verbal-verbal associations nor on any measure which requires relatively unstructured verbal expression." (p. 89)

Effects regarded as negative were:

- General reduction in visiting between households (one of the two studies);
- Reduction in participation in such formal community activities as school functions, club meetings, school board meetings, and church attendance.

It seems clear that to the extent that satellite TV implies viewing in a central place, as it did for 12 out of 15 of the ESCD sites, the effects of extensive TV would be muted. Satellite TV can, of course, be combined with cable and home viewing, as it was for two ESCD sites (Petersburg and Valdez).

It would be presumptuous at this point in time to predict the impact of extensive television on rural Alaska. Inevitably there would be some effects that would be considered positive, and others which would be considered negative by the Alaskan population.

(3) Implications

As long as there is no clear, prevailing wisdom about how much and what kind of television is "good for rural Alaska," there can be no valid state-wide imposition of policy. To the extent that there are varying opinions about the value and desirability of television throughout the state, there should be varying, regionally-tailored solutions.

For some ideas on how the regionally-tailored solutions might be formulated, see pages III-42 through III-51. The ideas are based on the ESCD experience with programming and Consumer Committees.

c. What is the Reaction in Rural Alaska to the Temporariness of Satellite Television Demonstrations?

Since satellite television is an emerging technology, it is growing in rural Alaska by "leaps and bounds". People are given access to satellite television as satellites with television capability become available; such satellites are currently available only sporadically. Temporariness seems therefore to be a characteristic intrinsic to satellite television for the present.

Over the next few years it will be difficult to guarantee that any given opportunity for access to satellite television will be only temporary. And it is important to know how users react to the temporariness. In this section, user reaction to ESCD's temporariness and implications for the future are discussed.

(1) The Necessity for Continuing Education

The period of demonstration and experimentation in rural Alaska with telecommunications is not over. There are many possibilities for use that must be checked out, and the process of trial and error may continue for years. (See Section IV for some possibilities for educational television use.)

One can argue that a system that ceases to experiment can not be responsive to users' needs, and this is especially true in Alaska. A responsive communications system must change along with sociological and communications conditions. As sociological problems and communications conditions change, the issues addressed and services provided by media must also change. It is hard to imagine a place where changes are occurring more rapidly than in Alaska. Satisfactory long-term television answers to rural Alaskan needs are likely to be the exception. (For a discussion of the sociological and communications context for ESCD/Alaska, see Section II of this volume.)

(2) Negative User Reaction to Continued Demonstration and Experimentation

Future demonstrations or experiments with satellite television in rural Alaska must be embarked upon with extreme caution. Figure III-6 shows that:

- Giving the residents of rural Alaskan villages access to satellite TV for a short time and then taking it away creates resentment.

The resentment has several strains:

- Temporariness: "If it's not going to be here for good, why bother?"
- Loss of something valuable: "People want to know the reason why it is being taken, and if we will ever get it back."
- Impatience with experiments: "It is time to start drawing conclusions. There is so much surveying and analysis, but nothing concrete comes of it."
- Attention paid by the government to overseas rather than to Alaska: "It's good to share things, but it seems like there's more going to the foreign countries than our Alaska."

There is some evidence that giving access to satellite television and taking it away creates resentment even when the television is not appreciated. The evidence is that some of the comments in Figure III-6 come from people who were not frequent viewers of satellite TV.

FIGURE III-6

finding:

Giving people in rural Alaska access to satellite TV for a while and then taking it away creates resentment.

evidence:

Reports by and interviews with Native Residents of ESCD villages:

- I don't feel it is fair to give people some TV for a demonstration and then have it taken away after a certain period of time. It would be particularly unfair if the TV was very successful on attracting a lot of viewers. That would be like giving a dog a bone for only a minute and then taking it away.
- It's good to share these things, but it seems like there's more going to the foreign countries than our Alaska.
- If it's not going to be here for good, why bother?
- People want to know the reason why it is being taken, and if we will ever get it back.
- Having things given and taken away is normal here. We don't believe it will return since it cost so much to put it here in the first place. If it means paying more taxes for the government to spend foolishly like that then no way do we want the TV back. To begin with ___ million dollars is a lot of money to spend in such a short time. We would much rather have a good air strip. It was a good example to show if you know the right people and pull the right strings you could get the money from the government for just about anything.

Consumer Committee comments:

- It is time to start drawing conclusions. There is so much surveying and analysis, but nothing concrete comes of it.
- They thought it was much too great an investment for an experiment.
- I think they should spend money here, not overseas. It's about time they start giving us something.
- In __ there's some hard feelings. They said, "Why get interested in something that you're not going to have after May?"
- The day I came in here some people asked me to try to get the satellite back. They were interested in watching the programs. The children were telling me to tell them to get the satellite back. You know there's basically hardly anything going on in our village that they can go to.

Teacher comments:

- The federal government spent hundreds of millions just for the little blinker that goes around to bring improved communications to remote regions of the U.S. Now I just don't consider _____, where you can pick up a phone and call any country in the world, really remote.
- The government can spend millions on a satellite, but not hundreds on some tapes.
- All we have left is a TV set; no tapes, no camera, no nothing.

Utilization Aide comments:

They're always saying there's no money for this, no money for that. There's lots of money. It shows you just have to know how to con them. It's politics.

The comments in Figure III-6 suggest that ESCD/Alaska users are tired of "one-shot" projects. It is possible that people were not as enthusiastic about ESCD as they might have been if:

- They had not seen previous projects come and go;
- They had perceived ESCD as part of an on-going process leading directly and immediately into operations.

Telecommunications experimenters in rural Alaska must remember that they run the risk of reinforcing the view that the government is a purveyor of unkept promises. Projects which come and go without leaving a trace are not rarities in rural Alaska. Two documented examples outside telecommunications are described in the following paragraphs.

(3) Government Response to the 1964 Earthquake

The extent to which villagers see outside government agencies to represent a host of false starts and unkept promises is more difficult to gauge than to sense. The natural politeness of most village people keeps their desire to report "agency atrocities" somewhat in check.

But rampage of "agency activity" following the disasterous 1964 Alaskan earthquake brought out the amusement and chagrin of even the most reticent. A 1965 field study led Davis (1969) to coin the term "agency saturation" based on:

> ...villager's recurrent references to confusion over agency purposes, expressed anger about unfilled promises and nominal consideration of village preferences, community-wide amusement over interagency conflicts, and increased intra-village political difficulties directly related to new problems instigated by outside intervention. (p. 144*)

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* Davis, N.Y., A Village View of Agencies. Abstract in Proceedings of the 20th Alaska Sciences Conference, Alaska Div., American Association for the Advancement of Science. July, 1970.

While this study doesn't necessarily represent the extent of disenchantment, it certainly characterizes the still existing condition of villages as they relate to the outside forces that control so much of village life.

(4) Native Teacher Training

The field of education is by no means immune to the problem of "hopes-raised-then-dashed." For example, a few years back a federally funded program for Native teacher training recruited scores of prospects, only to have its funding terminated after a year. Not only were the recruits left "high and dry", but they were also left with a large measure of suspicion and jadedness. The next teacher training program to come along (albeit, a successful one) innocently caught the full growth of ire planted by its predecessor. Most significantly, some prospects admittedly come into the new program for the stipend only, claiming they "need a job for the year, just like the last time."

(5) Implications

It seems probable that this apathy and resentment caused by the temporariness of projects will increase geometrically with every successive satellite television demonstration carried out in rural Alaska unless the availability of television is not temporary nor perceived as temporary.

Implications are obvious. Satellite or other television demonstrations should lead directly to operations. A lid must be put, in rural Alaska at least, on demonstrations that promise more than can be delivered by available operational systems. To what extent will ESCD dishes become reminders to village residents of something they used to have, but do not anymore, or of a promise that has not, and may never, be fulfilled?

Also the appearance must be avoided that rural Alaskans are being used as guinea pigs to prove that high technology works before that high technology is used elsewhere for political or economic gain.

(6) Recommendation

Telecommunications demonstrations should be undertaken in rural Alaska only when there are resources and commitment for putting aspects of the demonstration, which users deem successful, directly into operations on a long-term basis.

(7) Humanitarian and Economic Reasons for Proceeding with Caution

Reasons for the above recommendation are not only humanitarian, but also economic. The primary purpose of demonstrations should be to generate information about how technology can benefit users. Demonstrations which are effective information-generators require enthusiasm and cooperation of users. However, users who know the technology is only temporary have no incentive to find out what the technology is good for. Therefore, the information generated per dollar invested in demonstrations perceived as temporary, is likely to be small. Demonstrations perceived as temporary are not likely to be cost-effective.

Also, a demonstration is useful to the extent that it can approximate operating conditions. Resentment over the temporariness of a demonstration makes the users in the demonstration different from operational users and cuts down on transferability of experience.

d. Where Should the Television Sets be Placed? Reaction to Placement of TV Sets in the Schools

A key feature of any telecommunications system is the location of the television sets within the village. Figure III-7 shows that the location of the TV set in the school makes some adults uncomfortable.

The comments in Figure III-7 make it clear that location of the TV set in the school had a detrimental effect on attendance at, and enjoyment of, the Alaska Native Magazine.

(1) Accentuation of Tensions between the School and the Community

The following two sets of comments from two ESCD villages suggest that location of the TV set accentuates what has historically been a tense, cross-cultural relationship.

Village #1

Native Resident:
We feel uncomfortable in the school. We don't belong there. It's like the principal thinks we are spying on him. After a while he got the idea, and he doesn't come any more.

Teacher:
I didn't know until a few minutes ago the role of the Utilization Aide. I felt responsible because no one picked it up. She breezed in, counted the audience, and breezed out.

Village #2

Utilization Aide:
The school principal is very possessive of the equipment. Some teachers are possessive around the equipment. They don't think you can trust Natives around it. The set is always turned on before I get there. I want to turn it on.

Teacher:
If it hadn't been for the school, we'd have been off the air by November due to vandalism.

FIGURE III-7

finding:

Location of the TV set in the school makes some adults uncomfortable.

evidence:

Reports by and interviews with Native Residents of ESCD villages contained the following comments:

- We feel uncomfortable in the school. We don't belong there. It's like the principal thinks we're spying on him. After a while he got the idea and he doesn't come any more. He was trying to do the utilization aide's job. But finally she told him.
- The school principal is very possessive of the equipment.
- I thought TV was for the Native people, but they won't let us touch it.
- Adults do not feel welcome at Health programs.
- I go to the Alaska Native Magazine just to show villagers that it's theirs.
- People want to watch the Alaska Native Magazine in (Native) language, but always watch in English because of the teacher. I am going to bring it up at the village council meeting. The utilization aide is too polite to go against the teacher.
- Children are not allowed at the Alaska Native Magazine, and husbands and wives have to decide which of them would go watch TV and which would stay home and babysit.
- We pushed hard from the beginning to get one of the TV receivers in the village community building. Not only is the school "foreign territory" but it is also physically inconvenient, and the chairs are small and uncomfortable.
- Some people want to watch in (Native) language but we don't because the teacher wouldn't understand.
- The school for the adult program is definitely not the place.

Utilization Aides:

- People felt it was the school's TV. Same here.
- The school was the wrong place to have it. It's alienated from the village.
- In almost all the villages it's like that. The school is set off. It's not associated with the village.
- Most of it was the distance. The school is on a hill, and it is slippery.
- But the school was the only place they could have had it this time.

Teacher comments:

- The chairs were too small for adults. But that was our best room.
- In ___, for the adults the community center would have been better.

(2) Implications

The trend in rural Alaska has recently been toward giving Natives control of operations which affect them. (See Section IV under the heading "The General Trend Toward Regionalization of Control.") The best example to date is the Regionalization of the Alaska System of State Operated Schools (ASSOS) under which rural schools will come under full village control by July, 1976.

If the government intent is to give Native villagers control over services provided them, rather than vice versa, then it would seem to be clearly counter-productive to give sole access to satellite television to village schools.

Figure III-7 shows that placing television sets in the schools gives schools de facto, if not de jure, control over them.

If school/community tensions are not to be intensified, then access to television must be given to both the school and the community. Placing one television set in the school, and one in the community center would seem to be a good solution for most villages.

(3) Recommendation

Whenever adult viewing is a component of television demonstrations or operations in rural Alaska, television sets must not be placed solely in the village schools. They must be placed also in the community centers.

e. Interaction Opportunity Vs. Videotaping of Programs

A basic decision which often must be made by satellite TV users is whether to watch programs at the time of transmission, or to videotape the programs for later use. There is a trade-off between the flexibility in time and place of viewing offered by videotaping, and the interactive capability provided by the ESCD version of satellite TV.

(1) The Value of Interaction

Audio interaction integrated into video programming was not given an optimal chance to prove its utility (Figure III-8). However, resolution of the technical difficulties would by no means ensure that interaction would work well for children or for adults (Figures III-9 and III-10). Intrinsic problems seem to be:

- Lack of questions from viewers;
- Questions which are better answered within the classroom;
- Questions which are inappropriate to a public forum.

Conclusion: Satellite television cannot justify itself over other modes of distributing programming on the basis of access to live audio interaction integrated into video programming.

(2) The Value of Flexibility in the Classroom

The comments in Figure III-11 show clearly that, in the classroom at least, the value of a Video Tape Recorder's (VTR) flexibility far outweighs the value of realtime viewing and the opportunity to interact that it offers. Teachers feel it is important to control the program rather than be controlled by them.

Figure III-12 shows the related finding that placing a stationary television in one classroom, as was required by real-time viewing of ESCD programs, can create conflicts over that classroom's use.

FIGURE III-8

finding:

Interaction was not given an optimal chance to prove its utility.

evidence:

ESCD was forced to use a separate satellite, ATS-1, for interaction, which made procedures more complicated than they should have been.

Reception via ATS-1 was often bad.

Utilization Aide comments:

- It's a good idea if technicalitics are cleaned up.
- Interaction's is a good idea, but it was not used well.
- Only one person at a time could go through.
- Interaction was time-consuming. We had to call several times.
- I had to run back and forth. One button here, and one there. By the time I got through I was a nervous wreck. It was too much of a hassle. The buttons were too hard to switch.

Teacher comments:

- I don't think in this project we got a fair evaluation of what interaction can be because the interaction was a very cumbersome thing. Maybe using the ATS-6 voice channel would have shed a different light on the interaction. Also you have to take into account the personalities involved. ____ had the capacity to involve students.
- You almost need three arms to do interaction. Someone in Juneau forgets to come up on channel 2.
- It seems like everyone gets an echo.

FIGURE III-9

finding:

Resolution of interaction's technical problems will not ensure it's working well for children.

evidence:

Utilization Aide comments:

- When I asked if kids wanted to ask questions, they started giggling. I guess they're bashful.
- Our kids hated the interaction.
- They were kind of against interaction.

Consumer Committee comments:

- It would be better if the teachers did their own followup and interaction.
- Interaction seems to be the biggest complaint. Programming was good. The benefit of the satellite is interaction, but it failed.
- General consensus at home was that they would get more out of having the Health Aide or a nurse in the classroom to go over the "Right On" program and help them.

Teacher comments:

- The interactive portion of the two instructional programs is very ineffective. The children do not pay attention and usually the set is simply turned off.
- They certainly do want to talk, but they don't want to wait their turn. They want to talk now!
- And for a while, just to keep Juneau happy, we'd fire down a line. But usually we could answer our questions in the classroom.
- For "Right On" and BOLD you don't need it because the interaction was a disaster.

FIGURE III-10

finding: Resolution of interaction's technical problems will not ensure it working well for adults.

evidence:

Utilization Aide Comments:

- I found it difficult to get questions. How did you go about getting questions? I don't know if they were bashful or just not interested.
- I put up a sign saying, "If you don't want to ask your own question, I'll ask it for you." But it didn't help.
- Lots of people were shy.
- They are very aware that they are Indians when they talk.
- It is scary for most people to talk over the satellite.
- Adults are turned off by the interaction too.

Teacher Comments:

- I certainly felt inhibited by interaction.
- Often the interaction involved really limited topics like: Are we going to have Limited Entry on the Kuskokwim, or when are we going to get a Public Defender? Really particular types of questions. But I don't know whether you want to broadcast that kind of thing to everyone.
- I think even for adults interaction was poor.

Production Staff Comments:

I hope the success or failure of the Magazine is not determined by the success or failure of interaction. Too often during the year, I felt that we only elicited praise and support if our batting average was high (even if they were provoked rather than spontaneous). If it was low, we were a failure. The first issue is spontaneous interaction. It was indeed a failure. Many factors contributed to that: Problems with ATS-1 quality, the location of the TV set in the schools, having to hold the microphone and press buttons, having to talk in front of the whole group, and fear of embarrassing one's self by not being able to speak good English or by asking a silly question. It was a big step for someone to use the interaction capability. Would anyone, even someone used to TV and public speaking, go through all that? The second issue is provoked or forced interaction -- by directly calling on a site and asking a specific question. I think many of the people responded to this better, though only the utilization aides or teachers answered the questions for all the people. But still, it was us finding out what the people in the villages thought generally.

FIGURE III-11

finding:

In the classroom the value of flexibility, such as that provided by videotape recorders, far exceeds the value of real-time viewing, such as that provided by ESCD. ("Real-time" viewing means that broadcasting and viewing occur at the same time.)

evidence:

Teacher comments:

- In some cases TV is dictating to the curriculum schedule.
- I can certainly make better education advantage of it when I can decide when to use it, instead of having to orient my schedule to when it's coming on the tube.
- If you record them, then you can show them anywhere. Just wheel the machine around. Then the problem becomes "why have the satellite?"
- If it had been a tape on a cart you could wheel it around and as an instructor you can use them when you want. No problem.
- We all have had days where we're not getting anything done and then all of a sudden the kids are actually rewarded. They know it's TV day, and they know they're going to see it no matter what.
- "Live" programs sort of interrupt. VTR is better because you can stop in the middle.
- Videotape is good enough. Why does it have to be live?
- Many times I was even wondering about it. Why aren't we just having it on tape
- Yes, there should be TV in rural Alaska. On VTR.
- When you've got a Special Ed aide and a Bilingual program and then ATS-6 comes along...you know what I ended up with? A whole bunch of 15 minute sessions with my kids, and then a couple of 30 minute ones.

Consumer Committee comments:

- It seems like we could have used video cassettes and had the same impact.
- In the classroom lots of times someone would come by and we'd have to shut the TV off. It would have been better if we'd had video cassettes. We'd have been able to stop it and pick up on it later in the day.
- They could have gotten videotapes and shipped them to the villages instead of being on satellite TV since the interaction didn't work.
- I just wonder why it had to be on satellite TV. They could have just had it on videotape. I can't make sense of it being on satellite.

Utilization Aide comments:

It's an intrusion for teachers. We have a bunch of very good teachers, and they have their time planned.

FIGURE III-12

finding:

Placing a stationary TV set in one classroom creates conflicts over the use of that classroom.

evidence:

Teacher comments:

- The TV set was not in the right place, because there was no right place to put it. The TV set was in my room, and I had the 8th graders. We could have changed the room, but nobody wanted it. They said, "Under no circumstances do I want that thing in my room." They didn't want the community in their room at night.
- You just can't say to these kids, "Get out of the room; this isn't for you." ...We said we can provide something different in another classroom. We can give comic books and free reading. You know who went? The target population! But that was because it was their classroom (where the free reading took place).
- The TV was in the first and second grade room. When something was more advanced, the Junior High couldn't come in.
- Ours was in an extra classroom.
- In Aniak we have 5 or 6 rooms so it was easier.

Utilization Aide comments:

We had an ideal set-up because the TV was in the all-purpose room. There were no conflicts over who would get the room with the TV.

Conclusion: Satellite television cannot justify itself over other modes of distributing programming on the basis of access to live-viewing in the classroom.

(3) The Value of Flexibility Outside the Classroom

Figure III-3 presents the finding that:

- Consistently high attendance at adult programs like the Alaska Native Magazine occurs only when the event is incorporated into the village social life.

An analysis of attendance patterns presented elsewhere in this report, leads to the conclusion that increases and decreases in attendance at ANM were not controlled markedly by characteristics of programming. They were controlled primarily instead by factors inside the village.

> Life at each site consists of unique patterns and rhythms which account for the probability of viewing ANM more than any other external factor such as programming.

Conclusion: It appears, then, that both village classrooms and community activities impose unique scheduling requirements, and neither inside nor outside the classroom can satellite television justify itself over other modes of programming distribution on the basis of real-time viewing.

(4) More Arguments

Three additional arguments in favor of the videotape mode and against the real-time mode are:

- Alaska covers three time zones, and what is late for one part of Alaska is early for another;

FIGURE III-3

finding: Consistently high attendance at adult programs like the Alaska Native Magazine occurs only when the event is incorporated into the village social life. (This applies to centralized viewing, not to home viewing.)

evidence:

The following comments come from the only village we know of where there was consistently high attendance at the Alaska Native Magazine:

- Everyone in the village goes to the Alaska Native Magazine and the coffee hour. It is followed by a movie, and sometimes they serve popcorn.
- One night there was no coffee hour, but people came anyway.
- Everyone in the village goes to every community activity.
- Once a week was all that we watched.
- The satellite TV did not change life in the village for the adults -- it was just some added amusement or a time to sit and visit together.

The following comments come from villages where there was, in general, consistently low Alaska Native Magazine attendance:

- Different villages have different activities each night such as bingo, movies in some villages every night, etc.
- There's always something else going on, like basketball.
- I wonder if the program couldn't be moved to Thursday night since all the weeks seem to be busy except Thursday night.
- Run re-runs, or shift Native Magazine.
- The reason why there are hardly any people watching TV here is they started going to bingo in ____ on Tuesday nights.
- I think there should be more nights to watch TV.
- The show on whaling had quite a crowd, but most people left when it got closer to movie time.
- As the evenings get longer, you'd expect more people on TV night. But then there's bingo and movies that night.

Teacher Comments:

Bingo is really a popular sport or activity. Chauthbaluk is only 10 or 12 miles up river, within snow-machine distance. Two nights a week there's bingo in Aniak and then another two nights there's bingo in Chauthbaluk. So bingo players can play bingo 4 nights a week. Between the movies and bingo very few come to see TV. It is not a major social event.

Monday and Wednesday nights are meeting nights. We didn't have problems on Tuesday night.

We wanted to have the Halloween program a certain night. "Absolutely not. That's bingo night." I don't know what's going to happen. I think Christmas falls on bingo night this year.

- If audiences are videotaping, then there will be no real-time interaction, and "live" broadcasts become unnecessary. Consequently the necessity for simultaneous translation into Native languages is removed. And, since simultaneous translation is considerably more difficult than prepared translation, the translation will improve.
- In Figure III-11 one teacher comments: We all have days where we're not getting anything done and then all of a sudden the kids are actually rewarded. They know it's TV day, and they know they're going to see it no matter what.

Perhaps real-time classroom reception not only takes curriculum scheduling out of a teacher's hands, but also lessens his management of the classroom by randomly rewarding student behavior.

(5) Implications

Television that attracts the highest participation and disrupts life in the village the least will be that which is scheduled to:

- Fill in gaps in the school and community pattern of activities,
- Coincide with activities with which it is compatible.

Clearly, some village activities (basketball games, etc.) are incompatible with TV watching, and others (coffee hours, etc.) are compatible with it.

Therefore, real-time and the interaction it offers are not highly valued, and village classrooms and communities impose village-specific scheduling requirements.

The videotape mode, as opposed to the real-time mode, seems best-suited for village television both inside and outside the classroom.

(6) The Future of Interaction

In spite of the preceding discussion, to decide wholesale against interaction would be fool-hardy because:

- ESCD users have many ideas for its use which should be explored;
- Once there is statewide telephone, there will be interaction for the price of a long-distance phone call.

Figure III-13 lists some possibilities that ESCD users see for interaction. Note that few if any of the ideas require video. Interaction need not be more than a conference phone call, or a radio show where listeners call in -- the way they do in many parts of the U.S.

For the near future, then, experimentation with interaction should be limited to audio, and it need not--although it canbe--linked with structured radio programming. Audio interaction (possibly with people calling from their homes) could possibly break down the sociological and cultural problems that interaction has had so far.

Specific recommendations for interaction use, based on user reaction to ESCD, are presented in Part D of this section.

(7) Why Have Satellite TV?

So far in Alaska, satellite television's primary advantages have been considered to be real-time reception, and the interactive capability which accompanies real-time viewing.

FIGURE III-13

finding:

ESCD Satellite TV users have innovative ideas on how to use the interactive component.

evidence:

Utilization Aide Comments:

- Broadcast from each village to all the others, even if it is just the interaction.
- Each village prepare a short news item to call in. Have the Utilization Aide do the editing.
- Accompany interaction with a map with a blinking light showing where the calls are coming from.
- The problem with putting TVs in the home is no interaction, so maybe when a big issue was coming up people would watch from a central place.
- Computerized services of all types, such as legal services.
- If they had the puppets do the interaction, they would have gotten more out of it.

Consumer Committee Comments:

- If we could ask them (regional corporations) questions over TV they would have to answer. The way it is now you send them a letter, and they say we'll get back to you later, and you're lucky if they ever do.
- It would be binding with all Alaska watching.
- You could have someone in each village who collects all the news.
- Have one area one night, and another the next.
- Once or preferably twice each week.
- 15 minutes of gossip type news from each area.
- They have a program like that at the Bethel radio station. They report everybody that goes to the hospital and things like that. People from my village around can send news, like who's had a baby.

Teacher Comments:

- A round robin: what happened at your school this week. A problem-identifier and solver.
- There should be separate information programs, and interaction programs. For each program you've got to decide which.
- You've got to have a moderator some of the time to throw out some things that are controversial. It would be a shame to have to ask Juneau every time and say, "What do you think?"
- If everyone isn't locked in watching a health program, say, on Monday, Wednesday and Friday, then how can you interact?
- Call up a resource person whenever you want, even in the middle of the night, and ask the question and it gets recorded. Then sometime the next day the resource person answers all the questions. With that kind of interaction, the class doesn't necessarily need personalities and talk to them, more of a resource bank.
- This does not prevent us from having direct face-to-face interaction. It is for those who don't choose face-to-face interaction.
- Schedule a time for people who think face-to-face interaction is valuable. Give them a choice. (This is the "availability matrix" described earlier).
- I thought it was great when during Native news people called in with their local news. The river's going out and what not.

Therefore, once you have decided:

- In favor of the flexibility offered by the VTR mode, and
- To limit interaction to audio, unlinked with video programming,

you are obligated to re-explain why there should be satellite TV at all.

In the words of Consumer Committee members:

- They could have gotten videotapes and shipped them to the villages instead of being on satellite TV since the interaction didn't work;
- I just wonder why it had to be on satellite TV. They could have just had it on videotape. I can't make sense of it being on satellite.

(8) Potential Justifications for Satellite TV

Figure III-14 shows that there are serious problems with the current system of providing videotapes. Therefore, potential justifications for satellite TV over and above real-time viewing and audio interaction linked with video programming are:

- Timeliness: Perhaps requests for programs can be answered with a shorter time-lag via the satellite than via the mails;
- Programming Access: Perhaps programs are available via the satellite which are not available via the mails;
- Reliability: Perhaps satellite TV can short-circuit bureaucracies, so that requests are answered with higher probability and more accuracy;
- Ease of Access: Perhaps satellite TV can simplify requesting procedures;
- Cost: Perhaps programs can be provided cheaper via the satellite than via the mails.

FIGURE III-14

finding:

There are serious problems with the current system of providing video-tapes to the villages.

evidence:

Teacher Comments:

- We have fantastic delays in requesting tapes from ASSOS. I write and say I want a program that's coming up recorded (a TV special). They never get it recorded or out on time. If it came over satellite I could have an aide and see that it was recorded.
- We have no spare tapes. We were not about to erase our tapes. They should have provided us with blank tapes.
- Tapes cost money.
- Alter the administrative system enough to find money for tapes.
- I was surprised at how good the color TV (via satellite) was. The pictures were fantastic. I'd never seen anything as good as that. The color on the ASSOS tapes are bad. I just use black and white. Who wants to see people with green faces?

(9) Recommendations

Satellite television operators must justify themselves solely on the basis of cost-effective, timely access to programming. Satellite television in rural Alaska cannot be justified on the basis of real-time viewing, or live audio interaction which is integrated into the video programming. Whether the satellite television programming is new or "canned" is irrelevant to decisions about satellite television.

As soon as there is satellite telephone in rural Alaska, audio interaction should be used without video programming in three ways:

1. Phone-in conversation radio programs like those found in most population centers in the lower 48;
2. Conference calls to hold meetings among teachers, village councils, village corporations, etc.;
3. Administration and management of media services and educational materials distribution.

Television programming for rural Alaska must be accompanied by resources and explicit instructions for videotaping and watching at the villages' convenience.

f. Regional Versus State-Wide Television Networks

Momentum seems to be on the side of a statewide satellite television network for rural Alaska. Once Alaska has a statewide satellite telephone system (see Section II), it is a relatively short step to a statewide TV system. ESCD/Alaska has shown that inexpensive receptor satellite TV works in the sense that reception is superb and technical problems are minimal.*

(1) Findings Based on User Reaction to ESCD

Some of the findings based on user reactions to ESCD suggest that regional television networks would meet Alaska's needs better than a statewide system. Those findings are:

- Finding: Although some village residents see extensive television as having a positive or, at worst, neutral effect on village life, others see extensive television as being ruinous to Native ways of life (Figures III-4 and III-5).

  Relationship to the Regional Versus Statewide TV Issue: To the extent that there are varying opinions about the value and desirability of television throughout the state, there should be varying, regionally tailored solutions.

- Finding: Alaskans from one part of rural Alaska do not necessarily enjoy programs about other parts (Figure III-15).

  Relationship to the Regional Versus Statewide TV Issue: There is a market for region-specific programming which is most easily met by regional networks (This does not mean there is not also a state-wide market).

- Finding: So far the Native Language channels have been used only marginally, and there are serious obstacles in the way of their being used more than marginally (Figure III-16).

  Relationship to the Regional Versus Statewide TV Issue: There are too many Native dialects to permit appropriate transmission to each village via a state broadcasts tailored at the regional level, as they are by KYUK in the Bethel area, are more likely to do the job.

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* Consensus of village participants at the Evaluation Conference on May 29-31, verified by on-site observation by PCI Staff.

FIGURE III-15

finding:

Alaskans from one part of Alaska do not necessarily enjoy programs about other parts.

evidence:

Reports by and Interviews with Native Residents of ESCD Villages:

- In the interior we are not interested in things like "Limited Entry."
- Programs are always on the Southeast or Southwest.
- Minto, Minto, Minto (a town in the interior)--that's all we ever hear.
- The programs are usually not relevant to our area.

Consumer Committee Comments:

- There was a lot on Southeastern and Kuskokwim, and people felt there wasn't much on the interior.
- I don't see how they can develop one program to cover the whole state that would keep everyone happy.

Teacher Comments:

- When ______ came back from a mid project meeting she said, "Those people are crazy.""People from Southeastern were saying 'We don't want to hear about dog race junk,' and the people from the Interior were saying 'We don't want to hear about Limited Entry.'"

Production Staff Comments:

- Many of the so-called "villages" were more than half white. What typical Native villager were we supposed to be directing ourselves to? One in Chuathbaluk, or one in Galena? How could we compete with TV already in Galena and McGrath? Especially when we could have drawn a bigger crowd if our program had been on the order of "Hawaii Five-O" or "Kung Fu." These problems I think were generally ignored or glossed over. Even such things as, should we do a profile on a white person and should we only show Native faces were not dealt with. I think some kind of basic policy concerning these issues should have been established long before the programs began.

FIGURE III-16

finding:

So far the Native Language channels have been used only marginally, and there are serious obstacles in the way of their being used more than marginally.

evidence:

Utilization Aide Comments:

- I always had it in English. We tried it in Koyukon, but nobody understood it.
- I didn't use the other channels either. I just figured they would understand English.
- Nobody understands that back home.
- Back home we are trying to teach our dialect in the class room. If the kids hear a similar dialect that's different, kids are going to wonder what the hell's happening. I mean who's teaching who?
- Linguistics don't think there's as much difference between languages as the natives do. They never say anything about the differences between a lot of the languages.
- You sure can't please everyone with Native Language broadcasting.

Consumer Committee Comments:

- Hardly anyone knows how to talk the Native Language in ______, but it's coming back because of bilingual teachers.
- We tried Yupik once, but the two teachers couldn't understand so we turned it back.
- There's hardly anyone who speaks Athabaskan in _________. We tried Athabaskan, but only a couple people could understand so we switched it back.
- It seems like almost every village has a different dialect.
- From Bethel to Aniak its 120 miles. It's a little different. And then you go down to __________, and it's all the way different. You can't understand the people down there. Then you go over to Mountain Village and its different.
- If you talk to a kid in his Native Language, he'll think you're crazy.
- It's hard to please everyone with Native Language broadcasting.

Teacher Comments:

- I don't think in our area that with Native Language broadcasts the audience would have increased.
- We just tried Koyukon a couple minutes, and only a couple people understood it.
- In ____ at first they used the Native Language for ten minute segments or so, and then they didn't use it at all because there were a lot of people that just got really antsy. And then for the last few programs one monitor they'd do in English and one in Yupik.

(2) Regionalized Administration of the Alaska State Operated Schools System (ASOSS)

An additional source of region-specific demand for programming may be the current trend toward decentralization of school administration in rural Alaska. As stipulated in Senate Bill 35 passed in Spring, 1975, Regional School Boards will assume full policy authority over ASOSS on July 1, 1976. Historically, rural Alaskans have had only advisory control over education in their villages. All hiring of teachers, and curriculum policy were handled centrally.

Implications for telecommunciations are the educational needs as perceived by the different Regions may not be serviceable via one statewide system, and regional educational television networks may be optimal.

(3) SocioEconomics

There are also socioeconomic reasons for preferring regional television networks over a statewide network. They are:

- It is probable that satellite television would inhibit the growth of regional media systems. If programs are available to villages via the satellites, there will be no, or at least a reduced, incentive to develop local networks and programs;
- Why would a regional network, such as KYUK in Bethel, go through the agony and hard work of getting started when villages are already served by professional-level programming?
- Satellite television would provide fewer jobs in the communications and media industries than the same coverage using regional networks. More important, it would provide fewer low-level jobs useful for moving Natives in and up in Alaska's communications and media industries.

In the section that follows, the argument is made that the investment in regional media networks is the key to Native professional participation at all levels of planning, production, programming, broadcasting, etc.

(4) Recommendation

As a complement to satellite telecommunications systems, regional media networks must be developed to meet the demand for region-specific programming. The demand has several sources:

- Widely varying ideas on how much television is good for rural Alaska;
- Interest in regional topics and issues;
- Interest in Native Language broadcasts, especially as generated by the Bilingual Education Movement;
- Probable demand for region-specific educational materials generated by the July, 1976 regionalization of the Alaska State Operated School System.

2. How Can Control of Alaska's Rural Media be Delivered to Alaskan Villages?

Two sure ways to give Alaskan villagers control over media service to rural Alaska are:

1. For Alaskan villagers to actually do the planning, programming, and production;
2. For Alaskan villagers to have absolute approval/veto control over how money is spent on media services.

Therefore two basic levers for giving villagers more than token control of media services are:

1. Native participation as professionals in all levels of planning, programming, production, and broadcasting. (This does not mean an exclusively Alaska Native staff, but it does mean Alaska Natives mixed in at all levels);
2. Direct control of how much money is spent by whom to provide Alaskan villages with what media services.

Native villager participation in Advisory Boards and Consumer Committees, etc. may produce appropriate programming, but it does not represent village control. In this section the discussion is about villager control of media services in rural Alaska, not about appropriateness of programming. Programming problems and issues are discussed elsewhere (see Section V).

a. Native Villager Participation as Professionals in Programming, Production, and Broadcasting

The first of the two levers for more than token village control of Alaskan rural media services--Native participation as professionals in all levels of planning, programming, production, and broadcasting--depends on the existence of Native professionals in those areas.

ESCD/Alaska had several Natives with village backgrounds in key positions in broadcasting and management, and the question becomes: How can the pool of Native media professionals best be increased?

(1) Socioeconomics

Two socio-economic reasons mentioned previously for preferring regional to statewide television networks shed light on the above question.

1. It is probable that satellite television would inhibit the growth of regional media systems. If programs are available to villages via the satellites, there will be no, or at least a reduced, incentive to develop local networks and programs;
2. Satellite television would provide fewer jobs in the communications and media industries than the same coverage using regional networks. More important, it would provide fewer low-level jobs useful for moving Natives in and up in Alaska's communications and media industries.

(2) Some Facts of Life

An additional fact of life is that potential high-level media professionals must have experience at lower level jobs, especially if they are to have more than token impact on decisions. Also, satellite television must place higher value on the past experience of its professionals than would regional networks because:

- The investment per program hour is greater;
- The audience is larger;
- The audience is likely to be more sophisticated since it would encompass urban areas;
- The less intimate a program is to an audience's direct interests, the more professional it must be to be appreciated.

In short, satellite television makes higher demands on professionalism than would regional networks. Therefore, over the short term, satellite television would result in less professional Native participation than would regional networks with the same coverage.

(3) Implications

Based on the above "facts of life," the implications of the statewide vs. regional television networks issue for Native villager control of rural media seems more clear.

If it is the objective of the State of Alaska to use communications to strengthen the village cultures, then state and federal investments are best made in regional and local networks and programming, and in helping natives become media professionals.

There would appear to be no higher leverage investment in cultural pride and awareness than in the training of media professionals. Of all educational investments it probably has the highest multiplier effect. The job of media professionals, after all, is to communicate many things to lots of people.

(4) Effects on Satellite TV of Investing Over the Short-Term in Regional Based Media

The effects on an eventual satellite TV system of investing over the short-term in regional media would seem to be the following:

- Regional networks would provide pools of Alaska Native media experts, and satellite TV staff could be made up of the "cream" of regionally-experienced professionals;
- Regional networks would provide access to locally produced programs, and a portion of satellite TV programming would consist of the regions' best programs;
- For the above two reasons, costs born by satellite TV would be reduced; they would have to train and program less;
- Coexistence of the two systems would provide viewing alternatives for users and healthy competition.

(5) A Problem

The trouble with the above scenario is that it depends on regional networks and expertise preceeding a statewide satellite TV network. A statewide network seems imminent. Once professionals without backgrounds in rural Alaska are entrenched, they will be very difficult to displace. More importantly, it seems probable that satellite television would inhibit the growth of regional networks and programming.

(6) Recommendation

To give Alaska Natives direct participation in programming, the appropriate investments are in regional and local media networks and programming.

b. User Control of How Much Money is Spent on What Media Services

The second lever which must be exercised if Alaskan villagers are to have more than token control of their media services is direct control of how much money is spent on what media services.

ESCD Consumer Committees were meant to control how money was spent by representing users in programming and production decisions. They were set up in an advisory capacity and have given a good fix on what such bodies can and cannot be expected to accomplish.

(1) ESCD User Perceptions of How Consumer Committees Functioned

Figures III-17, III-18, and III-19 present the following findings:

- Children's programming Consumer Committee meetings were rewarding for some of the members and generated enthusiasm;

  However:

- Under the current arrangement they do not, by and large, generate children's program ideas, but only approve them;

  and

- They are not, for expertise, logistical, and sociological reasons, always free to exercise approval and veto power.

But they did make their presence known. At the October 29 - November 1, 1974 Consumer Committee for BOLD meeting, for example, strong disapproval was expressed, specifically of the puppets.

(2) Amateurism

It is simply asking too much to expect Consumer Committees to participate actively in the design of television programs, and this is because

FIGURE III-17

finding: Consumer Committee meetings are rewarding for the members and generate enthusiasm.

evidence:

- It was a very rewarding experience getting to meet people from other places and working together.
- A positive side is it was a cooperative effort.
- We were utilizing grassroots people. This gave the meetings a real significance.
- I put the importance of these meetings above my job.
- At the meetings a great deal of enthusiasm was generated, but this was hard to convey to the communities.

FIGURE III-18

finding:

Under the current arrangement, the basic mode of the children's programming Consumer Committees is to approve ideas, not to initiate them.

evidence:

Consumer Committee Comments:

- In the film we saw this morning a selling point which is really a discrepancy was when they said the Consumer Committee made the decision to use astronaut puppets. In fact the program designer initiated that idea. To project the impression that the astronauts are a brain child of the average Alaskan villager is not correct.
- I'll give a re-run of the first meeting. We were told that we were there to help design a program. There was a lag trying to come up with inspiration. Then (a member of the production staff) said she had thought of the idea of astro children. It sounded like a good idea at the time. She did not use an iron fist.
- In the Early Childhood Committee, both suggestions came from ________ (a member of the production staff), not the committee.
- The "Amy and the Astros" idea was presented to us at the first meeting. If it had been left up to us we would have had a completely different concept of what we were going to do a production about.

Teacher Comments:

- They tell us all these steps with regard to village input have been taken, and we don't really know if they have. Were the Astro children really their idea? I don't like someone saying that it was requested by the Committee because I think that's a lie.

FIGURE III-19

finding:

Under the current arrangement, Consumer Committees are not always free to exercise approval and veto power.

evidence:

Consumer Committee and Utilization Aid tapes contained the following comments:

- They had us approve 16 programs at a time. I thought that was real bad. We had to read a whole lot of papers and discuss them. Toward the end we approved just about anything just to get the meeting over with. We just didn't have time to hash it over.
- They brought _____ in and asked for her approval, she did not give her approval. They had the next two days to get it all done.
- There was no way I could say we don't want it that way.
- They were very sensitive to our objections. I think the Consumer Committee was aware that anything objectionable could not be brought directly to a resource person.
- They were talking out of both sides of their mouth. They asked for recommendations. Often we'd say "Do it like they do on "Right On." There'd be condescending nods and then at the next meeting they'd say we must get into production. We can't make changes.
- Judging from NIE's survey of BOLD and Early Childhood Education and their conclusions, we decided that they decided that the grass-roots people didn't know what was good for them. We believe we know what is good for us.
- The way I know they had a problem with funding is they cut out one of the puppets.
- He charged an atrocious amount for the puppets, and then they got changed because they weren't the way we wanted them made.
- It wasn't anywhere near what we'd originally come up with. I was shocked.

Teacher Tapes contained the following comments:

- On the committee I was on there were only about 2 or 3 of us who ever spoke. Everyone else sat there and got really inhibited. The NWL person didn't have any alternative but to take things in her own hands and do it. Then it was all done and the meetings that followed didn't have anything to do.
- I really don't think the Consumer Committees did that much. Empathetic and a lot of turnover.

An end-of-project report written by a member of the production staff contained the following:

I believe the consumer committee was a joke. I have grave reservations concerning their use in the context in which they were used in the project. First, they were given little time to respond to the designs and interject their own impressions and resented the fact that they were not given more time. This was the feeling that I sensed at the meetings where they were approving designs that I attended. By the time the consumer committee for BOLD finally got a chance to see some of the productions, they were so ignored that it fueled their reaction to minimal level programs that were initially produced. Second, they were then given input into the production level where they should not have belonged. There were several suggestions made at one of the consumer meetings that should have been the providence of the production house and not the consumer committee. It was unavoidable that they should try to make comparisons between BOLD and Right On!, but that was to be expected and we had no real way of countering that criticism that was directed towards us. For the most part we were aware of the problems that the committee brought up and more, but were unable to do anything about it during the time of production of those early shows. We could have used the input of the committee after the scripts were written to help with some of the difficulty that Bernadine had in coming up with cultural information for areas other than Bethel.

they are amateurs, not because they are Native or rural. The same would be true of urban whites.

- Most of us can only complain. We can say things like "I have a problem; my kids can't speak English, or I don't want my kids to go away to school."
- We can articulate our needs and problems;
- And we can also say things like "That English program is too childish; I don't like the puppets, or now that my kids stay home you aren't teaching them math."
- We can articulate what is wrong with the solution to a problem.

(3) Professionalism

There is a vast middle ground where negative feedback is not enough. It is the area inhabited by professionals where positive action is required, and the rest of us are inarticulate and ineffectual. The mode of professionals (and this is what makes them professionals) is to react positively to problems within the realm of their expertise.

Advisory groups of amateurs, then, can do two things:

- They can state their needs, and;
- They can judge whether a finished product meets their needs.

This creates an impasse if there is only one product to be judged and it does not measure up. However, the minute there are at least two programming efforts in competition, it becomes a stimulus to innovative solution to program problems.

(4) The Key to Control of How Money is Spent

The key to user control of how much money is spent for what media services is not Native participation in programming, although that is certainly healthy. The key is user power to approve and veto programming efforts, which means purchasing power.

In a subsidized situation like rural education in Alaska, the role of government should be to use incentives to force programmers to compete among themselves to please the users. Government must make reward for programming effort contingent on pleasing the user.

The best way to arrange the contingency is to put funds in the hands of the users -- to subsidize the investment in programming. The worst way is to subsidize the programming itself -- to put funds directly in the hands of programmers and producers.

In the program-subsidized instance, the programmers' funding is guaranteed before he starts, and there is no incentive to please the user except the programmers' good will. However, in the investment-subsidized instance, programmers must please the users with a sample product before they get funded, and there is economic incentive as well as the goodwill incentive to please the user.

(5) Beneficial Innovation Through Competition

The suggestion here is that the forces of a competitive, free market place be brought to bear on rural Alaskan communications and education problems.

Under normal conditions -- where we as consumers of media and education can turn dials, change channels, send our children to private schools, vote for a school board with real power, etc. -- such attention to bringing competition to bear is perhaps not necessary.

However, in Alaska, whoever delivers media or education service to a rural village has a virtual monopoly. There is no opportunity to turn dials, change channels, or vote the Alaska State Operated Schools System or the Bureau of Indian Affairs school system out of office. Therefore, conscious attention must be paid, wherever possible, to choosing the media or education deliverer via competitive means.

(6) A Competitive Bid Model

A model for satellite television programming competition might be as follows: The Consumer Committee announces that it has X dollars to spend to fill a certain need -- for example, social studies curriculum for rural village high schools.

In the first stage of the competition, programmers who have materials they think are appropriate present them. The Consumer Committee has two options. It can either select one of the "canned" programs as meeting the need for social studies curriculum, or reject them all (perhaps because none contained Alaskan Native History) and open the competition up to developers of new programming.

The contestants in the new programming competition would present sample treatments of Alaskan Native History and their qualifications for producing the whole series.

Hopefully the programming teams would prominently include Native media professionals with village backgrounds. However, Native participation in the programming and production is not key to village control of how much money is spent on what media services.

Then the Consumer Committee chooses among the competitors. If there is only one competitor, the Consumer Committee must have the genuine option of rejecting the product. Obviously it is essential that none of the Consumer Committee be members of the programming teams.

The model just presented for delivering control over how much money is spent on what media services to villagers takes advantage of precisely those functions that groups of amateurs can perform well:

- They can articulate needs and problems;
- They can articulate what is wrong with the solution to a problem.

It does not require that groups of amateurs do what they are incapable of doing, which is to design programs. Designing programs is the realm of media professionals.

(7) ESCD/Alaska as an Investment in Consumer Education

To expect Consumer Committees to manage the investment in media without any education in what media have to offer is unrealistic. Consumer Committees must have some idea what is and is not possible, and what does and does not work in the village context.

Fortunately, for the 15 ESCD sites, consumer education has already begun. The Consumer Committee members and Utilization Aides from the 15 sites would seem to be an ideal nucleus for managing future investment in media for rural Alaskan villages.

Figure III-20 shows that Regional Native Corporations are not, by and large, a good source of Consumer Committee members. Regional Corporations are perceived as:

- Not representing village Alaska directly enough;
- Being too busy to devote time and attention to rural Alaska's media needs.

FIGURE III-20

finding: Regional Corporations are not, by and large, a good source for Consumer Committee members.

evidence:

- The Alaska Native Magazine Consumer Committee was made up of representatives of the Regional Corporations. Attendance at ANM Consumer Committee meetings was poor, especially near the end of the demonstration, and it was necessary to augment the committee with utilization aids. No members of the Alaska Native Magazine Consumer Committee attended the ESCD Participants' Evaluation Conference, although they were all invited.

Consumer Committee tapes contained the following comments:

- At the beginning we were expecting village representation on the Alaska Native Magazine.
- The Consumer Committee had nothing to do with the Alaska Native Magazine.
- Isn't the Alaska Native Magazine from the Regional Corporations? Look at the program they delivered.

  They didn't give a damn. What they were after was political minded, not what we wanted. They don't listen to us. They're asking for input, but they're just being polite.
- Whoever the Alaska Native Magazine Consumer Committee was, it sounded like it was just Regional Corporations. People didn't feel they had any input in ________.
- Regional Corporations should have no participation. They are trying to get too much power and having their fingers in everything. A background role is all.
- The Village Corporations should have some say. But the Regional Corporations should stay out.

Utilization Aid tapes contained the following comments:

- I don't think Regional Corporations have time to mess around with TV.
- The only role Regional Corporations should have is giving funds. They should stay in the background.

The Consumer Committees as they functioned during ESCD do not provide a model for delivering control of media services to villages. Committees with only advisory powers can have only token control. However, they do represent an investment in consumer education which should be capitalized on.

The Utilization Aides and Consumer Committee members from ESCD sites are the experts as of this moment on what media service is needed or would be appreciated in rural Alaska, both inside and outside the classroom.

The problem now is how to capitalize on ESCD/Alaska's investment in consumer education.

(8) Recommendation

ESCD Consumer Committees (including Utilization Aides) should be given funds for buying programming on behalf of rural Alaskan villages. Awards of programming resources should be made on the basis of samples submitted by potential programmers in competitive bid fashion. Teachers should participate as advisors on children's programming. The Consumer Committee must be allowed to use the money to either buy already existing programming, or to contract for new programming.

c. Day-to-Day Management and Monitoring of Media Services

(1) The Need for an On-Going Audience/Programmer Dialogue

At the beginning of this section it was stated that there are two basic levers for delivering control of rural media in Alaska to the villagers. The levers are:

- Direct control of how much money is spent by whom to provide Alaskan villages with what media services;
- Native participation as professionals at all levels of planning, production, and broadcasting. (This does not mean an exclusively Alaska Native staff, but it does mean Alaska Natives mixed in at all levels).

The net combined effects of the two levers should be:

- Choice of media services that villagers need and want;
- Placement of programming resources in the hands of those best able to understand and communicate with village audiences.

The two levers do not ensure that a programming effort will stay on target however. The first lever can be pulled only once per programming effort on an "OK, let 'er rip" basis. Objectives, programming areas, programming personnel, and funding level are chosen, and essentially that's that.

The second lever, which is Native participation as professionals in the programming, increases the potential for communication and understanding between programmers and audiences.

Neither lever necessarily provides the on-going dialogue between programmers and audiences that can keep a programming effort on target.

(2) ESCD Utilization Aides. A Basis for Discussing Day-to-Day Management of a Village's Media Services

During the ESCD experience, the best opportunity for on-going programmer/audience dialogue seemed to be between the Office of Telecommunications and the Utilization Aides in each village. The Utilization Aides were used informally as sensors of audience reaction, and in March of 1975, some aides were combined with the Alaska Native Magazine Consumer Committee because it was felt that they had the best handle of all on village reaction to the Magazine.

In this section, ESCD experience with Utilization Aides will be used as a basis for discussing how village representatives might best be used as a conduit for programmer/audience communication, and as managers of a village's media service on a day-to-day basis.

The concensus of Utilization Aides at the Evaluation Conference held May 29-31, 1975 was that technical problems at the village level were minimal. However, Figures III-21 through III-25 give compelling evidence that there are a number of tasks which must be accomplished at the village level if satellite television service is to operate optimally and responsively.

(3) Information Management

The message conveyed by Figure III-21 is that someone in the village must collect attendance records, and other feedback on village reaction to programming. A communications network without even basic attendance feedback neither stands a chance of being responsive nor of staying in tune with village needs and desires for media service.

The message conveyed by Figure III-22 and III-23 is that someone in the village must publicize programs, schedules, and media services available.

Figure III-3's message is that adult programs must somehow be incorporated into the social life of the village, if participation is to be high, and worth the investment in programming. In one village high attendance was accomplished by combining the Alaska Native Magazine with a coffee hour. Videotaping allows customized scheduling, but loses the opportunity to interact.

Figure III-10 and III-24's message is that someone must organize and lead the interaction situation. Availability of the technology is not enough to insure interactions' working.

Figure III-25's message is that a map placed above the TV set which shows where calls come from, contributes to the benefits of interaction.

FIGURE III-21

finding:

The Alaska Office of Telecommunications' procedures for collecting attendance and other basic data must be improved.

evidence:

Only 5 villages kept logs which were anywhere near satisfactory (see Section V).

Utilization Aide Comments

- Did you get a log? All I had was the one they gave me in December.
- They wondered why I wasn't sending in a log, and they finally sent me a whole stack.
- They sent me only one log in the back of the booklet, and I filled out that one in December.

Production Staff Comments:

- I think the utilization aides were very under-utilized. $50 a shot is a lot of money to pay someone just to turn on the set and watch a program for an hour. I would have liked, if possible, a written report after each show to include: number of people watching; fewer or more than previous week and why; what parts were liked best, least; suggestions for improvement; how could interaction be stimulated; do people in the villages want interaction; etc. That kind of feedback would have helped enormously, especially in substantiating some of the impressions we were getting but that were being ignored. The sheets with viewer attendance we received were helpful, but very incomplete.
- In the production of a viewer-defined program, such as ANM, the Utilization Aides would play a major role, not only letting people in the sites know what's happening with ANM, but telling us what the viewer thinks.

FIGURE III-22

finding:

Media services, such as satellite TV, must be publicized and advertized within the village.

evidence:

Reports by and Interviews with Native Residents of ESCD Villages:

- The Alaska Native Magazine started with only 3 or 4 in attendance, and then went up to about 50. Part of the reason was that a sign announcing "live TV" was put up in the Northern Commercial store;
- When we know something interesting is going to be on there are a few people;
- It has been suggested that a brief summary be given a week ahead of the next program so that people will know what is being talked about ahead of time, and make an extra effort to attend the program;
- People won't go see TV unless they know what is going to be on;

Consumer Committee Comments:

- After they came once they wouldn't come back. Something else had to happen to get them back;
- We lost all the viewers by February, and we had a heck of a time getting them back.

FIGURE III-23

finding: Presenting information about media services at village council meetings is not sufficient.

evidence:

Consumer Committee Comments:

- People don't like to go to meetings. You're better off trying to catch them at home.
- As soon as the meeting's over that's the end of what is said. You never hear or see about what went on. It doesn't disperse any information whatsoever.
- In ______there's a lot of older people. Everyone goes to village council meetings.
- In _____whatever is said in city council doesn't get out. It is said and stops there.
- Same in_____.
- Same in_____.

"Village people have indicated their disdain for Anglo forms and structures in any number of ways, not the least of which is reflected by the Yupik for village council member, angaayugaruag (pretend boss). In some villages, people on the council are legitimately high status individuals in that local context (although almost never are THE leaders on the council, and even less often are they council presidents). But in many situations they are middle status or lower, designated more than anything else because of their willingness to play the role of "pretend boss" - to go through the motions of setting up meetings, answering correspondence, filling out papers, and entertaining visiting agency officials. When non-Natives come to villages representing programs and with specific purposes they tend to be pretty insecure and it is important to them to have "official" angaayugaruags to meet with. Native people have learned, then, how to cope with the old take me to your leader syndrome-and instead of directing them to the real leader or leaders (with whom the visitors would most likely not even be able to talk and who they certainly would not understand), they escort them instead to the "pretend bosses" -and everybody is happy. Then if the visitor raises legitimate issues or asks real questions (it sometimes happens) requiring response from someone in authority in that village, then the subject is tabled until the council president can get together with the real leader or leaders and get the answers for his people."*

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*Vaudrin, Bill. "Native/non-Native communication: creating a two-way flow, Cultural Influences in Alaskan Native Education. James Orvik, and Ray Barnhardt, editors. Center for Northern Educational Research, University of Alaska, 1974.

FIGURE III-3

finding:

Consistently high attendance at adult programs like the Alaska Native Magazine occurs only when the event is incorporated into the village social life. (This applies to centralized viewing, not to home viewing.)

evidence:

The following comments come from the only village we know of where there was consistently high attendance at the Alaska Native Magazine:

- Everyone in the village goes to the Alaska Native Magazine and the coffee hour. It is followed by a movie, and sometimes they serve popcorn.
- One night there was no coffee hour, but people came anyway.
- Everyone in the village goes to every community activity.
- Once a week was all that we watched.
- The satellite TV did not change life in the village for the adults -- it was just some added amusement or a time to sit and visit together.

The following comments come from villages where there was, in general, consistently low Alaska Native Magazine attendance:

- Different villages have different activities each night such as bingo, movies in some villages every night, etc.
- There's always something else going on, like basketball.
- I wonder if the program couldn't be moved to Thursday night since all the weeks seem to be busy except Thursday night.
- Run re-runs, or shift Native Magazine.
- The reason why there are hardly any people watching TV here is they started going to bingo in ____ on Tuesday nights.
- I think there should be more nights to watch TV.
- The show on whaling had quite a crowd, but most people left when it got closer to movie time.
- As the evenings get longer, you'd expect more people on TV night. But then there's bingo and movies that night.

Teacher Comments:

Bingo is really a popular sport or activity. Chauthbaluk is only 10 or 12 miles up river, within show-machine distance. Two nights a week there's bingo in Aniak and then another two nights there's bingo in Chauthbaluk. So bingo players can play bingo 4 nights a week. Between the movies and bingo very few come to see TV. It is not a major social event.

Monday and Wednesday nights are meeting nights. We didn't have problems on Tuesday night.

We wanted to have the Halloween program a certain night. "Absolutely not. That's bingo night." I don't know what's going to happen. I think Christmas falls on bingo night this year.

FIGURE III-10

finding:

Resolution of interaction's technical problems will not ensure it working well for adults.

evidence:

Utilization Aide comments:

- I found it difficult to get questions. How did you go about getting questions? I don't know if they were bashful or just not interested.
- I put up a sign saying, "If you don't want to ask your own question, I'll ask it for you." But it didn't help.
- Lots of people were shy.
- They are very aware that they are Indians when they talk.
- It is scary for most people to talk over the satellite.
- Adults are turned off by the interaction too.

Teacher Comments:

- I certainly felt inhibited by interaction.
- Often the interaction involved really limited topics like: Are we going to have Limited Entry on the Kuskokwim, or when are we going to get a Public Defender? Really particular types of questions. But I don't know whether you want to broadcast that kind of thing to everyone.
- I think even for adults interaction was poor.

Production Staff Comments:

I hope the success or failure of the Magazine is not determined by the success or failure of interaction. Too often during the year, I felt that we only elicited praise and support if our batting average was high (even if they were provoked rather than spontaneous). If it was low, we were a failure. The first issue is *spontaneous* interaction. It was indeed a failure. Many factors contributed to that: Problems with ATS-1 quality, the location of the TV set in the school, having to hold the microphone and press buttons, having to talk in front of the whole group, fear of embarrassing one's self by not being able to speak good English or by asking a silly question. It was a *big* step for someone to use the interaction capability. Would anyone, even someone used to TV and public speaking, go through all that? The second issue is *provoked* or *forced* interaction -- by directly calling on a site and asking a specific question. I think many of the people responded to this better, though only the utilization aides or teachers answered the questions for all the people. But still, it was *us* finding out what the people in the villages thought *generally*.

FIGURE III-24

finding:

If interaction is to work in situations where adults watch programs like the Alaska Native Magazine at home, then the Utilization Aide has a large organizational and leadership role to play. The Utilization Aide must organize the interaction and have a switch board for receiving calls, and either calling them in herself, or connecting the phone calls to the audio up-link.

evidence:

Comments by Utilization Aides from villages or towns where there is cable TV.

- We get the Alaska Native Magazine by cable, so I was always there (the all-purpose room at the school) by myself.
- I know a lot of people were watching it in their homes.
- The people at home could call me with questions, and I could call them in. But adults never talked on interaction.

FIGURE III-25

finding: Interaction should be combined with a map showing where the calls are coming from.

evidence:

Comments by Utilization Aides:

- Kids loved to hear voices from other places, especially when they could see it on the map.
- We put a map above the TV set. That should be a requirement.
- Accompany interaction with a map with a blinking light showing where the calls are coming from.

The message conveyed by Figure III-26 is that baby-sitting facilities and alternative entertainment for children must be provided if adult programs are to function well. One ESCD site used VTR programming for the children.

(4) Leadership

Figure III-27 conveys the message that overall leadership is necessary if media services are to function optimally, and this is especially true if the television set is placed in the school. In many villages the school is perceived as foreign territory by the community, and special effort must be made so that audiences feel comfortable there.

Figure III-28 conveys the message that adults should have an opportunity to see the programs their children see in the school. Figure III-29 conveys the message that some statesmanship may be required in handling students who do not receive satellite television programming.

Figure III-30 conveys the message that leadership is necessary for coordination among different media systems. Satellite television operations must be coordinated with other media systems so that they complement each other and do not conflict.

(5) Media Para-Professional

ESCD users also suggested that the following tasks must be carried out if satellite television is to operate optimally:

- Coordination of visits by film crews (Figure III-27, Consumer Committee comments);
- Set up village news collection system for satellite broadcasts of local news (Figure III-13, Utilization Aide comments).

FIGURE III-26

finding:

Specific attention must be paid to giving the children something to do during the Alaska Native Magazine or other adult programs.

evidence:

Utilization Aide Comments:

- They should have had more stuff to entertain the kids. It's hard for parents to watch it if you can't keep the kids still.

Consumer Committee Comments:

- Kids were not allowed in ________.
- Even the small kids like 3rd and 4th grade came.
- ________ kids were welcome at the Alaska Native Magazine.
- During the Alaska Native Magazine we would have kids watch Sesame Street or BOLD over VTR in another room.

Reports by and interviews with native residents of ESCD villages:

- Children are not allowed at the Alaska Native Magazine (in our village), and husbands and wives have to decide who goes to watch TV and which stays home to babysit.

Teacher Comments:

- Usually the kids were so noisy that no one could hear the program. That's when we came to the conclusion to start a coffee shop. People love their kids so they bring them. They can't leave them home with the lantern burning. They think the house will burn down for sure. The kids were a distraction, but the parents don't do anything about it. So the parents couldn't hear. And it looked to me like they were kind of disgusted. They looked to me to tell the kids to be quiet, but I do that all day. Then after about 8 weeks some said "shhhhhh." I spend 8 hours a day telling the kids to be quiet. It's their job.
- Maybe the audience should be limited to adults. When the program was introduced the idea was sort of get a baby sitter and have a night out. But there was nobody left to baby sit. We had Sesame Street and sports programs for the kids on VTR.
- You could slap on a VTR for the younger kids. We couldn't.

FIGURE III-27

finding:

The Utilization Aide job should be re-designed and renamed. (It should be a leadership and promotion job, not just a "hardware" job.

evidence:

The consensus of the Utilization Aides at the Evaluation Conference was that technological problems were minimal, and the following comments indicate the need for leadership and promotion.

Reports by and interviews with Native Residents of ESCD villages:

- People want to watch the Alaska Native Magazine in Yupik, but always watch in English because of the teacher. I am going to bring it up at the Village Council meeting. The Utilization Aide is too polite to go against the teacher;
- The Alaska Native Magazine started with only 3 or 4 in attendance, and then went up to about 50. Part of the reason was that a sign announcing "live TV" was put up in the Northern Commercial Store;
- I go to the Alaska Native Magazine just to show villagers that the TV is theirs;
- The school situation inhibited participation of village people in interaction;
- Shyness of the people made the people unwilling to talk;

Utilization Aide comments:

- We get all this criticism and find out we were supposed to be doing all these other things (promotional activities);
- If we had had a meeting with the teachers and community and ironed out how we were going to communicate, things would have gone better. In my school people didn't know what it was going to be about;

Consumer Committee comments:

- We have yet to be notified that anyone was coming in. The production crew was really negligent in this area. From a courtesy point of view they were very imposing;
- We had a film crew in ______, but nobody know they were coming. One thing that didn't help was when the GOT staff came out to talk they just talked to the school. They didn't talk to any community people;
- The technical aspects were publicized, but utilization of grass roots people was not;
- I imagine the school and the Utilization Aide would have been the two groups who would have had the information. They did not pass that along in any way whatsoever. There was no cooperation between villagers and the school. The town has been that way for a long time. The Utilization Aide should be someone who gets along with the school and the community.

Production Staff comments:

- In the production of a viewer-defined program, such as ANM, the Utilization Aides would play a major role, not only letting people in the sites know what's happening with ANM, but telling us what the viewer thinks. Special events worthy of coverage could be coordinated by the Aide, and they could be called on to report when a cameraman or cinematographer comes to cover an event. I would require use of portable color video systems for electronic news and special events coverage.

Observations by PCI Staff:

- The one instance of consistently high Alaska Native Magazine attendance resulted from action taken at the village level. The teachers held a coffee hour.

FIGURE III-28

finding: Some adults would like to sample the programs the children see.

evidence:

Reports by and interviews with Native residents of ESCD villages contained the following comments:

- Some of us would like to see the health programs our children see. If we saw it they would get more out of it;
- Maybe a good idea would be to show health programs before the Alaska Native Magazine;
- It's a problem having health movies only in the morning. I haven't seen very many as I get my housework done in the A.M. and work at the clinic in the afternoon. If the program continues the time should be changed, or is it up to the village to ask the time to be changed?

FIGURE III-29

finding:

When satellite TV (or other special program) is given to one group of children within the school, the other students may feel left out.

evidence:

Teacher Comments:

Village #1

- They designed two programs for kids 5-6 years old, and 8-10 years old. They bring TV for the little kids. Now what about the rest of the student population? And we had the Alaska Native Magazine zooming right over their heads. You can't just say to these kids, "Get out of the room; this isn't for you.
- In a really remote village you can buy a kid's soul with a thirty minute movie. They really like movies. That's not a criticism or anything; it's a reality. The TV is so closely aligned to being a movie. Even the 7th and 8th graders were just scared to death they were going to miss some ha ha. Something funny was going to happen. They would sit a whole year waiting for something silly.
- In small villages it's suicidal to have programs for 6 and 9 year olds and leave the rest out. How do you say to a group of 7th and 8th graders, "This program isn't for you. You can't watch it. And you can imagine how enthused they were over "Amy and the Astros". They weren't even enthused with Rex and Charlie. The older kids were bored stiff. We gave them the option. We said we can provide something different in another class room. We can give comic books and free reading. You know who went? The target population (the younger children)! But that was because it was their (the 7th and 8th graders) classroom.

Village #2

- In ______ at the first of the year, the high school was afraid they would miss something. At first there was a monitor in the high school and they watched. But then they got turned off. At first they were really thrilled.

Another Village

Reports by and Interviews with Native ESCD Village Residents:

- And the older children should get to watch TV, not just the 1st, 2nd, 3rd and 4th graders.

FIGURE III-30

finding:

Cooperation of local cable systems with satellite TV cannot be taken for granted. And the job of ensuring cooperation is too big for a Utilization Aide to handle. Areas where problems are likely to occur are:

- How to ensure that the satellite TV programs are transmitted via cable.
- How to ensure that satellite TV program schedules are transmitted via cable.

evidence:

Comments by Utilization Aides from villages or towns where there is cable TV:

- We didn't have very good cooperation with the people who ran the cable. A lot of times they wouldn't turn it on, or they would turn it on late;
- They refused to put our TV schedule on the mini-scanner along with the other programs.

Comments by teachers from villages or towns where there is cable TV:

- 3 out of 12 said thay watched some programs by cable;
- 8 out of 12 said they would have watched more programs if they had been announced by mini-scanner.

The following functions, then, are required at the village level if satellite television, or regional television for that matter, is to function optimally:

Information Management:

- Feedback of audience reaction to Consumer Committees;
- Publicize programs and schedules within the village.

Management and Coordination of Activities:

- Incorporate adult programming into social life;
- Organize interaction;
- Provide baby-sitting for children during adult programs.

Leadership

- Vis-a-vis the school on behalf of the community, especially if the television set is in the school;
- Vis-a-vis other media services.

Media Paraprofessional

- Coordinate visits by film crews;
- Set up village news collection system.

(6) A Media Manager for Each Village

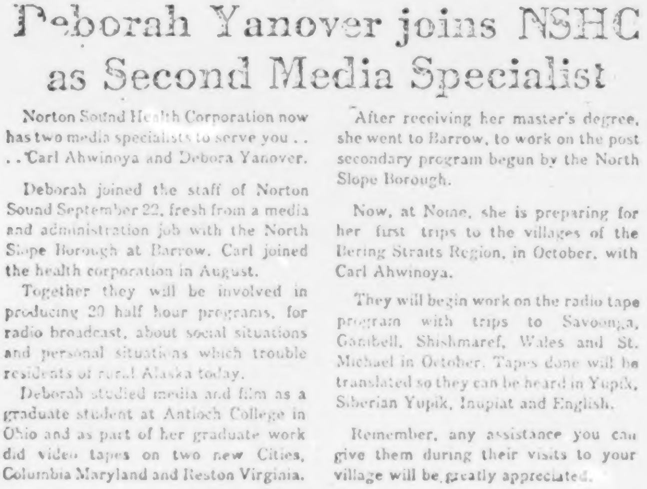
Clearly the job described above is not trivial and requires training and selection of qualified individuals. Also it is clear that the issues addressed in the list of tasks are not confined, or need not be confined, to satellite TV. The issues subsume satellite TV; the words "satellite TV" can be replaced by "all media services," and they make even more sense than before.

One conclusion that might be drawn, then, is that each village have a "media manager" who coordinates all media activities on behalf of the village. Media Managers should work for the village, and not for the Office of Telecommunications or whatever office becomes the operational communications arm of the State Government.

For most of us, control of media access is at the knobs of our radios and television. For rural Alaska there is either no access, or there is a monopoly--one broadcasting source. Whoever has media access to rural Alaskan villages has powerful control over what they know and what they do not know about the world. The villages are at media's mercy. Therefore the analogue to our knobs must be for the whole village, and it is appropriate for Alaskan villages to each have a Media Manager where for most of us it would be superfluous.

The role of Media Manager is not unprecedented in rural Alaska. In the Mini-TV Experiment discussed in Section IV, each village hired a station operator responsible for receiving, playing, and transporting tapes; supervising part-time station help; and carrying out the functions of the station. Also in one of the Mini-TV communities (Unalaska) a Media Advisory Committee was formed to take responsibility for policy and operations.

And the following news article comes from the Bering Straits Agluktuk (Vol. 3, No. 1, September, 1975, p. 6):



Deborah Yanover joins NSHC as Second Media Specialist

Norton Sound Health Corporation now has two media specialists to serve you . . . . Carl Ahwinoya and Debora Yanover.

Deborah joined the staff of Norton Sound September 22, fresh from a media and administration job with the North Slope Borough at Barrow. Carl joined the health corporation in August.

Together they will be involved in producing 20 half hour programs, for radio broadcast, about social situations and personal situations which trouble residents of rural Alaska today.

Deborah studied media and film as a graduate student at Antioch College in Ohio and as part of her graduate work did video tapes on two new Cities, Columbia Maryland and Reston Virginia.

After receiving her master's degree, she went to Barrow, to work on the post secondary program begun by the North Slope Borough.

Now, at Nome, she is preparing for her first trips to the villages of the Bering Straits Region, in October, with Carl Ahwinoya.

They will begin work on the radio tape program with trips to Savoonga, Gambell, Shishmaref, Wales and St. Michael in October. Tapes done will be translated so they can be heard in Yupik, Siberian Yupik, Inupiat and English.

Remember, any assistance you can give them during their visits to your village will be greatly appreciated.

(7) Recommendation

Funds should be made available and procedures set up for the hiring and training of a Media Manager for each rural Alaskan village. The Media Managers must work for the villages, and be hired and paid by the villages. They must not be employees of the state government, because an important part of their job is to represent the villages as consumers of government media services. They must be totally free to tell the state government when it is and when it is not providing satisfactory media service.

3. Lessons Learned from ESCD Programming

The bulk of the lessons regarding programming for rural Alaska are still to be learned. ESCD represents only a small portion of the programming possibilities which might be explored.

The following discussion of programming for rural Alaska consists largely of circumstantial argument. This study of ESCD/Alaska included neither systematic survey of viewers, nor content analysis of the programming, which would be two avenues for bringing empirical evidence to bear on programming issues.

a. Cultural Relevance of Programming

"Culturally relevant" programming is programming which is successfully tailored for rural Alaskan audiences. Since culture is an elusive concept it is often difficult to describe the characteristics of cultural relevance, and in practice it seems easier to identify instances of "cultural irrelevance."

For example: It is difficult to write guidelines for the type of English which should be used when broadcasting to rural Alaska. But it is relatively easy, after the fact, to identify instances where audiences did not understand--where the language was culturally irrelevant.

Obviously, much programming tailored for audiences outside rural Alaska is appropriate for rural Alaska nevertheless. One goal of communications systems, after all, is to allow communication with the outside world. Cultural relevance, therefore, is not a characteristic that must be sought 100% of the time. A strategy for deciding when to use "off the shelf" materials, and when to embark on new, culturally relevant programming is described below.

(1) ESCD User Reactions and Cultural Relevance

Collection and sorting of ESCD user comments about programming have lead primarily to findings which are not generalizeable to policy-level statements about how to make programming culturally relevant (see Figures III-31 and III-32). The findings do have the following generalizeable implications:

- Cultural relevance was not perceived by adults as a salient feature of the children's programs (Figure III-31);
- Using the current Alaska Native Magazine format, white administrators do not talk so village audiences can understand (Figure III-32).

(2) Cultural Relevance of Children's Programming

A primary justification for doing new children's programs rather than taking old ones off the shelf must be cultural relevance. This is especially true of BOLD, since many English teaching programs for young children already exist.

FIGURE III-31

finding:

In spite of the objective of making the children's programs culturally relevant, they (BOLD in particular) were seen as competitors to Sesame Street. Cultural relevance was not perceived as a salient feature of the children's programs.

evidence:

Teacher comments:

- In our village the teacher was matching it up with Sesame Street. And she thought Sesame Street was more worthwhile for the kids to watch. But she went ahead and showed BOLD anyway;
- You can't compete with the Electric Company;
- When we got Electric Company and watched it, we said, "And KUAC thinks they can compete with that?"
- The Electric Company drove it home. They were into that 100% because its so visual;
- Showing Sesame Street and Electric Company raised standards so that ATS-6 looked bad.

Consumer Committee comments:

- They watched Sesame Street at home, and by that time they were too advanced over "Amy and the Astros."

Reports by and Interviews with Native Residents of ESCD villages:

- Native stuff for kids is no big deal. Sesame Street is just fine.

Utilization Aide comments:

- Some of the parents I talked to didn't see BOLD as superior to Sesame Street. "Why don't you just show Sesame Street?" they said. "Why spend all that money?"

FIGURE III-32

finding: Using the current Alaska Native Magazine format, white administrators and city natives do not talk so village audiences can understand.

evidence:

Reports by and interviews with Native Residents of ESCD villages:

- The teacher is the only one in town who understands the "high" words;
- Even people whose English is pretty good can't understand the bureaucrats;
- People here don't understand the words like leasee and leasor, per se, etc;
- The worst for us were the interviews except for a few of them and the Governor's Inaugural Speech. Most people back home are not used to fast talking and big words. The word game is not our thing -- very few garrulous people at home. They believe in saying as much as possible with a few words.

Utilization Aide comments:

- People tended to talk too much. They get carried away with it;
- They were boring because there was no chain reaction of question and answer;
- You have to be able to understand a lot of big words to keep up.

Consumer Committee comments:

- Too much talk;
- Use more of our own type of people on a question and answer basis;
- They didn't appreciate so much the individual interviews.

Teacher comments:

- When people found out it was more of a lecture show people dropped out.

The weight of the comments listed in Figure III-31 is that BOLD was perceived by adult viewers as a competitor to Sesame Street. The cultural relevance simply did not come through enough to cause adult viewers to perceive it as something other than a competitor to programs not especially tailored to rural Alaska.

The possibility still exists that the intended audience--the small children in rural Alaska--do perceive BOLD as different in kind from Sesame Street. However, this seems improbable since the teachers, who presumably know the children well, do not see BOLD and Sesame Street as different in kind.

(3) Dimensions of Cultural Relevance

The dimensions upon which cultural relevance are displayed in BOLD are better termed "environmental" relevance, and relevance to the material cultural at best. Social and behavioral culture are elusive even to those trained to identify them (anthropologists), and to think that non-trained production and design staff can identify and articulate them is wishful thinking.

The programming and production staff were, of course, aided by the advice of Consumer Committee members who live in rural Alaskan cultures. But they are not trained to articulate the cultures in ways that programmers can use, and maybe such articulation is impossible.

It is little wonder, then, that subtle, cross cultural behavioral dimensions which would have made ESCD's children's programming unmistakeably culturally relevant evaded portrayal.

(4) Verbal Humor and Children's Programming

Circumstantial evidence leads to the conclusion that under the current arrangement of hiring white TV professionals to produce culturally relevant programs, the tone and flavor of children's programs are largely determined by "white" humor.

The circumstantial evidence is as follows:

- Consumer Committees generally had approval/veto access only to program plans and character design;
- Much of the TV programming for children consists of verbal "humor," both planned and improvised;
- Verbal humor tends to be culture bound:

> "Extensive use of regional or cultural idiom (such as 'bull in a china shop,' 'out in left field,' 'robbing Peter to pay Paul,' 'thrown for a loss,' 'taking the bull by the horns,' 'home safe,' 'when a push comes to shove,' etc.) should be 'avoided like the Plague.' Native people who have no background in urban living or baseball or football, etc., out of which these idioms have developed, often hang on them when they occur in oral presentations, groping around in their experience and associational complexes for ways of relating the component parts of the idiom in some way that is meaningful. Meanwhile the speaker is rattling on, so that some key transitional element has been lost to that Native listener by the time he refocuses his attention on what is being said, with the result that the total picture becomes more and more obscure--until often, in frustration or ennue, he simply tunes the whole production out, assumes a blank stare, and begins weighing the relative merits of a Yamaha against a Polaris snowmobile for the coming winter."*

- Children's programming, production and broadcasting staff was over-whelmingly white.

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* Vaudrin, Billy. "Native/Non-Native Communication: Creating a Two-Way Flow," Cultural Influences in Alaskan Native Education, Orvik & Barnhardt (editors), Center for Northern Educational Research, Univ. of Alaska, Fairbanks, 1974, p. 75.

The previous discussion is in no way a criticism of ESCD production staff. Nor does it imply that white humor is bad for village children. The concern here is that planners know exactly what they are getting when they set up Consumer Committees, or Native representatives, who have no active production role.

(5) Culturally Relevant Programming for Adults

Difficulties in turning out culturally relevant programming are not confined to children's programming.

Figure III-32 presents the finding that using the current Alaska Native Magazine format, white administrators and city Natives do not talk so village audiences can understand.

The comments supporting the findings suggest that there is more involved here than just not understanding. There also appear to be some questions of style, and there is also a strain of actual distaste for the way some interviewees expressed themselves.

> "DON'T TALK TOO MUCH. DON'T TALK TOO FAST. These are the dual faces of what I regard as the Critical Commandment for non-Native educators desiring to communicate with Native people. It seems to be virtually impossible for teachers and administrators who are products of an urban, Caucasian, competitive-acquisitive society to not dominate any conversation or meeting with Native people. I'm not suggesting that there are no exceptions--but the facts are clear: The rule is that any time non-Natives and Natives sit at the same table to talk, the discussion is dominated and generally monopolized by the non-Natives. This results from a cultural and not a racial difference--but the correlation is so high (urban/white as opposed to rural/Native background and orientation) that for practical purposes the issue may be discussed, and usually is, in racial terms.
>
> The reasons for Native non-participation or minimal participation in groups of mixed ethnic composition are various and complex. That non-Natives, and especially white educators, talk too much and too fast (and often too loud when standing close, or in an intimate setting, so as to amplify in some Natives the already-critical anxiety factor--though care must always be taken to

> speak clearly and loudly enough for older people whose hearing might be impaired, to follow) is not alone responsible. Conditioned expectations are also a contributing factor.
>
> I suspect the tolerance level of Native people for periods of silence punctuating dialogue is probably greater than that of whites, at least certainly in groups of mixed ethnic composition. Whites seem to get nervous quicker when no one is talking, and so they rush into a void with words, feeling they are somehow 'saving' the situation, when the Natives weren't aware that it was lost. An individual with an appropriate and good sense of humor may help put people at ease, and make it easier for them to relate and communicate."*

(6) Villager Disinterest in "Politics"

There is additional evidence that the negative reactions to the interviews is not entirely based on viewers not being able to understand Some comments by Utilization Aides suggest that the content of the interviews was also sometimes distasteful:

- We're tired of political things;
- We're really too far from the cities to be interested in politics;
- Same in my village;
- I can see how they'd be good in school, but I'd rather watch "I Love Lucy;"
- People-oriented programs they enjoyed, but not politically oriented programs.

It is not entirely clear what is meant by "politics," but obviously the comments above refer to something over and above fast talk and big words.

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* Vaudrin, op. cit., p. 72.

(7) Teacher Reactions to the Alaskan Native Magazine

Interestingly enough, some comments by teachers in ESCD villages suggest that their perceptions of what would make up good adult programming may contradict what the Utilization Aides would like to see.

- I felt the Alaska Native Magazine was staying away from the hot issues. I would like to have seen a real heavy program on alcohol;
- I also recognize that that's getting yourself in a lot of hot water...If there's lots of Anglos in town that's all right. But if you're the only white man it can get pretty heavy;
- They talked about some relevant topics. The last program was about "What is the future of the villages?" I would like to have seen more of that type of thing;
- Live interviews would have been more interesting if they had presented opposing views at the same time. Also it would have drawn out more information. I would have found it easier to get involved in interaction if they had had diverse viewpoints;
- They tended to have people who were in agreement. They need some kind of debate;
- There wasn't any kind of controversy.

It is difficult to say what the relation is between the Utilization Aides' dislike for "politics" and the teachers' desire for "controversy."

(8) The Future of "Serious" Adult Programming

It would be throwing the baby out with the bathwater to opt for pure entertainment programs, and give up the idea of "serious" adult programming, such as interviewing of government officials for village consumption.

Consumer Committee members were interested in the idea of interviewing Regional Corporation officers via satellite TV.

A solution to the problem of interviewees talking above the heads of village audiences might be to broadcast from villages, using a live audience asking questions and speaking up when they do not understand.

Unless there were video uplinks in the villages, "liveness" would be sacrificed. But the gain in conversation quality would far offset the loss of "liveness."

(9) The Problem

The important dimensions of Alaskan Native cultures--and of all cultures--are not material, but social and behavioral. If the important dimensions of Alaskan Native cultures are to be portrayed by television programming for rural Alaska, then attention must be given to letting the subtle, sometimes non-verbal communication take place.

The communication must be allowed to take place on at least three levels:

- Script writing;
- Casting;
- Directing and Acting.

If any of the above three is neglected, then you may get good programming, but you will not get programming which is culturally relevant in any but trivial ways.

Many of the rules for successfully making programming culturally relevant are most certainly subtle, and were never codified except in the individual experience of the programming, production, and broadcasting personnel.

Clearly, subsidizing cross-culturally unprepared white television professionals to communicate Alaskan Native cultural relevance is doomed to failure. This is not to say that there is no place for white professionals in rural Alaska's media industry. Any professional participating in a program inspired and controlled by Alaskan Natives will be developing "culturally relevant" materials. Further, culturally relevant programming is not the only type of appropriate programming. The purpose of television and communications, after all, is not just to learn about ourselves.

(10) The Solution

Replacement of white professionals by Native amateurs is not the solution, but neither is cross-cultural training of the white professionals. Since many of the rules for successfully making programming culturally relevant are most certainly subtle and uncodifiable, many of the rules are also essentially unteachable.

In general it would seem easier to teach programming to people who know the subtleties of Alaskan rural cultures, than it is to teach the subtleties to people who know programming.

The only solution is training of Native media professionals. A strategy for developing a cadre of Native media professionals, and culturally relevant programming is described in pages III-47 through III-50.

(Reasons why establishing advisory committee made up of Alaskan villagers are not the solution are explained on pages III-51 through III-55.

(11) Recommendations

- If programming which is specially tailored to be culturally relevant to rural Alaskan audiences is the objective, then the appropriate investment is in training Alaskan Native media professionals in all areas including: script writing, directing, acting, puppeteering, etc.;

- A profitable area for programming experimentation is to film interviews with government officials and other people who effect the lives of residents of rural Alaska, in a village setting in front of a live audience of village residents;
- Commitment to broadcast programming, and commitment of resources to new programming must be separate decisions. Commitment to new programming must only be made after a survey of existing materials shows that new programming is needed.

b. Educational Television and Village High Schools: The High School Problem

A good way to arrive at programming which is responsive to audience needs is to derive the programming from a specific, serious problem. Figure III-33 suggests that the pressing need for curriculum supplements in rural Alaska is at the Junior High and Senior High levels.

The following describes a situation which might be called rural Alaska's "high school problem." Many consider this to be Alaska's most serious educational problem.

Many Alaskan villages are not large enough to support their own high schools, and therefore it has been commonplace for Natives to spend their adolescent years in the lower 48 on Indian reservations, in Alaska city schools, or in Regional High Schools in towns like Bethel. Cultural, educational, and psychological problems are documented and enormous.

(1) Village High Schools and Educational Television

Recently some small high schools have been started in villages such as Tanana, Aniak, and Angoon (to name three in the ESCD footprint). The question is: What use might be made of satellite TV to:

FIGURE III-33

finding: The pressing need for curriculum supplements is at the Junior High and Senior High levels.

evidence:

Teacher's comments:

- There's plenty of exciting things for young kids. There's millions of dollars spent on developing them, and little old KUAC just can not compete with that;
- Curriculum for older kids is a big problem. When you take the standard hard line you say: "These are the books you're going to read, and here's the work books. That's it." There is a giant hole there. We're into the relevance problem. I mean it's hard to talk to them about Gettysburg. If we talked about alcoholism or abortion, there would be a group of parents outside waiting to burn the school down. But these are the things they want to talk about;
- TV has possibilities for broadening the curriculum in high schools in the smaller villages. Suppose we wanted to have a chemistry course and nobody in the village could teach it. It couldn't be solely that. There'd have to be a lot of "hands on" type of experience too;
- Use TV to bring in outside expertise. Especially in situations where teachers are forced to teach outside their own areas, like algebra for example;
- In ______ they offer something like 70 courses, and they only have 4 teachers;
- They could use it for vocational courses;
- Language courses;
- You have kids in the 8th grade whose whole view of the world is Hollywood. They think all anybody does outside is Kung Fu all the time;
- I'd like social studies programs. A view of Alaska is difficult to do yourself;
- Our kids were turned off by a program on northern Eskimos even though that's where their ancestors come from. We need to build curiosity and knowledge;
- I'm looking for cross-cultural things. Prepare people to live on a trap line or in a big city. That's my job.

Utilization Aide comments:

- We have our high school for the first time with hardly any text books for a high school. They've been deprived and losing so much, and this could really help;
- They could use teachers from another village (via satellite);
- The state would benefit if they could build more village high schools. Because they have to pay for foster homes. And we would be able to have our children at home.

Comsumer Committee comments:

- We don't have a good textbook for Alaskan history. Maybe satellite TV could solve that problem;
- Over the Armed Forces station we get Black history all the time. Nothing like that has been done for the Alaskan Natives;
- They could do programs on local history, about Native participation in World War II for example, or about the original Nome serum run (my father was on it), or about the TB epidemic in the villages. The kids in our village don't know why there were so many graves during that time;
- Alaskan history is the impact of the Gold Rush, or the impact of the Russians, nothing about the Natives;
- There is interest in how to get oral history recorded. Maybe they could have a program on how to do it;
- Maybe the satellite could coordinate the retention of oral history better than someone traveling around;
- Career information for older kids;
- All they can think about is working for Wien Airlines, or for the National Commercial Store.

- Augment current village high school curriculum;
- Allow high schools in villages where there are none.

Three alternative modes for accomplishing the above are:

- The Materials Distribution Mode described in Section V;
- Teacher-sharing via audio presentations and supervised interaction;*
- New programming which meets educational needs specific to rural Alaskan Junior High and Senior High schoolsters.

Reasons for the good fit between The High School Problem and educational television are as follows:

- Lack of in-community specialization necessary for teaching full high school curriculum;
- The seriousness of the "high school problem;"
- The possibility that high school students would respond well to interaction;
- The necessity that high school materials be region-specific and timely.

(2) High School Student Development of Curriculum

Some of the comments in Figure III-33 suggest that a promising area for interactive, new programming would seem to be development by high school students of a Native American History.

Each high school class could conduct interviews of old people, and gather any available history of their villages and share it via interaction.

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* A central teacher functioning with a number of classes does not work well because students become restless, the questions may not be relevant to more than a single class, there may be duplication of questions, etc. The Veterans Administration used controlled access to the central "teacher;" i.e., initial questions are screened by the local teacher and summarized or condensed to reflect the class interest. At the studio a second screening occurs and questions of interest to the larger audience are transmitted.

This would be an educational experience in and of itself, and also it could form the basis for future curricula in Native Alaskan History.

(3) High School Participation in Media Operations

An interesting experiment would be to involve High School classes in media operations. Perhaps high school students can form the bridge between communities and their schools.

High school participation in media is not unprecedented. The Mini-TV experiment reports (Section IV) that in Unalaska a high school "media" class was started to allow students to participate in station operations.

(4) Recommendation

Telecommunications in rural Alaska, including satellite communications, should take as its mandate solution to the "High School Problem." Three alternatives for augmenting village high school curriculum are:

- Materials distribution access of already existing programming;
- Teacher-sharing via audio presentations and supervised interaction;
- New programming on Alaskan Native History.

c. Future Use of ESCD Programming

Figures III-34 through III-36 present the following findings:

- The "Right On" health program is a significant addition to health curriculum in rural Alaska;
- The program titled Basic Oral Language Development is, in general, most appropriate for pre-schoolers and kindergartners.

- Some installments of the Alaska Native Magazine are appropriate for high school classes.

Additional findings based on "User Reaction to ESCD/Alaska" in the programming area are as follows:

- Programs ostensively designed for rural Native children are entertaining for non-rural white children (Figure III-37);
- Scheduling teacher training is a problem, since it depends on live interaction, and therefore cannot be videotaped at the village level (Figure III-38);
- There is a demand for adult education, especially in the health area (Figure III-39).

FIGURE III-34

finding:

The "Right On" program is perceived as a significant addition to health curriculum in rural Alaska.

evidence:

Teacher comments:

- "Right On" was our health curriculum except for 6th, 7th and 8th grade girls who had curriculum they designed themselves. We said, "Great, here's a health curriculum."
- "Right On" was pretty much the whole health program. We used the supplementary materials only when appropriate. One teacher used them for a discussion guide The other let the students run the discussion;
- One of the health programs was on smoking and alcohol. Teachers in the past had asked children, "Does your parent drink?" and caused hostility. But we could respond that this was a satellite program, and this made it more neutral. I could say it was decided on by a Consumer Committee. And I think the program was really needed;
- They related to Milly. She's a real person. Rex and Charley said the whole message. Nothing else was necessary;
- We found that later on in the day the thoughts from "Right On" would come up;
- "Right On" is an effective way to teach health;
- The "Right On" health program was the most valuable aspect of the project.

Consumer Committee comments:

- Now I have to go through my house and put child safety caps on medicines because they learned all this;
- They usually talk about health and about "Germ" (a puppet).

FIGURE III-35

finding:

The program titled Basic Oral Language Development is, in general, most appropriate for pre-schoolers and kindergartners.

evidence:

Reports by and interviews with Native Residents of ESCD villages:

- The 3rd graders don't stay because the program is too easy;
- BOLD is videotaped to use with kindergartners;
- Pre-schoolers come in to watch videotapes of BOLD.

Utilization Aide comments:

- BOLD is perfect for three year olds;
- "Amy and the Astros" (BOLD) should have been in the town hall where the little kids could see it;
- The teachers said BOLD was too basic even for kindergarten;
- Most of it was too basic, but they enjoyed it.

Consumer Committee comments:

- The second grade teacher said "Amy and the Astros" was too easy. After they took it off one child said, "Why did you take it off? 'Amy and the Astros' was my favorite part of school."
- "Amy and the Astros" should not have been for that age group. It was more for the pre-school type and younger.

Teacher comments:

- BOLD wasn't addressing any kind of needs the kids have. When do we have time to teach kids to read?
- There were maybe two villages, Nikolai and Chuathbaluk where BOLD was appropriate. The people in Petersburg must really get a kick out of that;
- I have a hard time accepting it. They went into this huge, giant, expensive program and there were only two sites in the whole program where it applied;
- Even in Chuathbaluk my impression is that the kids come to school speaking English;
- This is a vivid example of the stereotype people west of Cooke Inlet have of the bush. They said, "Native village. They speak Native Languages there. They must need to learn English";
- I felt the whole thing was very professionally done except it was not needed at this time or place;
- We used it for an early childhood development program. The pre-schoolers came up to the school to watch BOLD.

FIGURE III-36

finding:

Some installments of the Alaska Native Magazine are appropriate for high school classes.

evidence:

Utilization Aide comments:

- One teacher had students (high school) watch the Alaska Native Magazine program about Land Claim

Reports by and interviews with village residents contained the following comments:

- One teacher has his contemporary problems class watch the Alaska Native Magazine program -- they view the tape (this takes two class periods), then they discuss issues that are relevant...I sat in on a discussion that was held after they viewed the program on the Pipeline. The kids asked about how people were hired for the slope, what types of jobs were in demand, and what training was necessary. I feel that they are more aware about what is going on around the State because they are exposed to a variety of topics on ANM.

FIGURE III-37

finding:

Programs ostensibly designed for rural Native children are entertaining for non-rural white children. (We are using "rural" in the Alaskan sense. Petersburg would probably be called "rural" in the "lower 48".)

evidence:

Comments by the Utilization Aide from a non-rural school where most of the children are white:

- They really liked BOLD more than "Right On." Maybe that is because our culture isn't like the villages where it seems like they liked "Right On" better;
- They'd sing along with "Amy and the Astros."

Comments by teachers from a non-rural school where most of the children are white:

- I think it is very good. Some of the health programs were a little too advanced even for my 7th grade;
- 8 out of 12 said they liked the program. 2 out of 8 qualified this by saying they liked the programs "sometimes";
- 10 out of 12 said they thought the programs were educational.

FIGURE III-38

finding: Scheduling teacher training is a problem, since it depends on live interaction and therefore cannot be video-taped at the village level.

evidence:

Teacher comments:

Scheduling:

- In our school it was at 4:30, and the teachers were all beat;
- "Show and Tell" just came on at a bad time;
- That was just a bum time for teacher training. I could never get it in my head to get over there. And I don't know when a good time would be. I kept forgetting;
- Politalk should have been at a time where everyone could watch not just school people.

Attendance:

- One teacher watched Politalk all by himself;
- I was the only one except for my wife. They should have a mandatory roll call;
- Myself and one other person in town were the only ones to come to Politalk and Show and Tell;
- A couple of times we watched it. Most times we didn't but there were worthwhile things (caribou hunters, etc.);
- We had quite a big participation on the library program. A lot of people were looking for course work.

Programming:

- I really enjoyed Politalk. The information was current;
- The "Make Your Own Production" idea flopped. Maybe people just weren't hungry enough for credits;
- I don't care if they are comfortable or happier. I care if they can read (comment on programming on teaching to read using newspapers);
- We were just worried about reading, not even about math or science;
- Maybe there should have been a Consumer Committee for "Show and Tell."

FIGURE III-39

finding: There is a demand for adult education, especially in the health area.

evidence:

Reports by and interviews with Native Residents of ESCD villages contained the following comments:

- Some of us would like to see the health programs our children see. If we saw what they do, they'd get more out of it;
- Maybe a good idea would be to show health programs before the Alaska Native Magazine;
- It's a problem having health movies only in the morning. I haven't seen very many as I get my housework done in the A.M. and work at the clinic in the afternoon. If the program continues the time should be changed, or is it up to the village to ask the time to be changed?
- We need health programs for adults. I have two kids with eye problems, but I don't know what to do about it;
- Use satellite to help parents use sign language to talk to deaf children. My child uses sign language but I don't know how.

Utilization Aide tapes contained the following comments:

- Gardening; how to raise tomatoes, for example;
- An insert on what an orchestra is like, or an opera. Not a whole opera though;
- Programs about Indians from the lower 48;
- Programs on food.

Consumer Committee tapes contained the following comments:

- I would sincerely like to see a program of adult education and a brush up type program for adults. Three or four weeks on math, three or four weeks on english, etc.;
- Run them in a way that's not mandatory in one of the classrooms. Right now they're asking for this type of thing;
- Tanana has started Adult Basic Education (non-televised).

D. RECOMMENDATIONS: THE APEX OF THE PYRAMID

In this section, 13 recommendations for guiding future planning and management of communications systems in rural Alaska are presented.

Presentation of the recommendations is divided into four parts:

1. Satellite television and requirements placed on media services by rural Alaskans (6 recommendations);
2. How can control of Alaskan rural media be delivered to the villages? (3 recommendations);
3. Programming for rural Alaska (4 recommendations);
4. Summary of Recommendations.

The recommendations are, of course, focused on satellite television. However, in many cases, they apply to telecommunications in rural Alaska in general. In Part 1, satellite television is considered as a competitor and complement to other systems. In Parts 2 and 3 the recommendations apply to virtually all modes of programming transmission.

The recommendations are presented along with a summary of the derivations of the recommendations. For a full discussion of the basis for the recommendations, see part C of this section.

1. Satellite Television and the Requirements Rural Alaskans Place on Media Systems

In the following paragraphs, recommendations of the following types are discussed:

- Criteria for deciding whether to invest in satellite television demonstrations and operations in rural Alaska;

- Mandatory components of a satellite television system in rural Alaska;
- Necessary complements to satellite television in rural Alaska.

The recommendations are presented along with a summary of the basis for arriving at the recommendations.

a. Criteria for Deciding Whether to Invest in Satellite Television Demonstrations and Operations in Rural Alaska

(1) Recommendation

Telecommunications demonstrations should be undertaken in rural Alaska only when there are resources and commitment for putting aspects of the demonstration which users deem successful directly into operations on a long-term basis.

(a) Basis for the Recommendation

ESCD/Alaska has shown that giving people in rural Alaska access to satellite television for a while and then taking it away creates resentment (see Figure III-6). Telecommunications experimenters in rural Alaska run the risk of reinforcing the view that the government is a purveyor of unkept promises. Projects which come and go without leaving a trace are not a rarity in rural Alaska (see pages III-21 through III-24).

Demonstrations which are cost-effective information generators require enthusiastic participation on the part of users (see page III-25). Users who perceive a demonstration as having no long term significance for them are not likely to expend energy and resources finding out what the demonstrated technology is good for.

Therefore: Demonstrations in telecommunications which are perceived as temporary by rural Alaskans are poor investments of taxpayer's money.

(2) Recommendation

Satellite television operations must justify themselves solely on the basis of cost-effective, timely access to programming. Satellite television in rural Alaska cannot be justified on the basis of real-time viewing, or live audio interaction which is integrated into the video programming. And whether the satellite television programming is new or "canned" is irrelevant to decisions about satellite television.

(a) Basis for the Recommendation

User reaction to ESCD shows that interaction integrated into television programming was not given an optimal chance to prove its utility (Figure III-8); however, it is also clear that resolution of interaction's technical problems would not result in its working well for children or for adults (Figures III-9 and III-10). Audio interaction separate from television programming does have promise however (see page III-38).

ESCD/Alaska has also shown that both inside and outside of the formal schools situation, the videotape mode, as opposed to the real-time viewing mode, is best suited to attracting high participation without disrupting village life (see pages III-29 through III-37).

When real-time viewing and the opportunity for live interaction are factored out of the functions performed by satellite television, the remainder consists of access to programming. Whether the programming is new or "canned" is entirely separate from the mode of transmission, and is irrelevant to decisions about satellite television.

The question, then, becomes:

> Does satellite television provide more cost-effective (cheaper) and more timely access to a wider variety of better programs than other distribution modes?

(1) A Break-Even Equation

First approximation of a break-even equation for deciding between satellite television and mailing of tapes is as follows:

Cost of Mailing Tapes = Cost of Distribution via Satellite

where:

Cost of Mailing Tapes* = Annualized Cost of Master Tapes
+
Annual Redubbing Cost
+
Annual Mailing Cost

and

Cost of Distribution via Satellite* = Annualized Cost of Master Tapes
+
Transmission Channel Cost
+
Annualized Recorder Costs (summed over sites)
+
Annualized Earth Station Costs (summed over sites)
+
Tape Use Cost (summed over sites).

The above is only a first approximation because it does not take into account such variables as: reliability, ease of access, timeliness, etc. Presumably, these factors favor distribution via satellite.

The economics of "Materials Distribution" as it was used by ESCD/Rocky Mountains is being analyzed by the Educational Policy Research Center at Syracuse University. A potential area for exploration during the second year of this study is to examine "Materials Distribution" in the context of rural Alaska.

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[*] Annualized costs refer to annual recurrent costs plus capital costs that are depreciated over the estimated life of the items and takes into account the changing value of the capital over the project life. The equation for annualized capital costs, $C(r,n) = [r(1+r)^n]/[(1+r)^n - 1]$ where "r" refers to annual rate of interest (or discount) and "n" refers to number of years of life for the item.

b. Mandatory Components of a Satellite Television System in Rural Alaska

(1) Recommendation

Whenever adult viewing is a component of television demonstrations or operations in rural Alaska, television sets must not be placed solely in the village schools. They must be placed also in the community centers.

(a) Basis for the Recommendation

ESCD/Alaska has shown that some adults feel uncomfortable when they must view programs in the school (see Figure III-7). In many Alaskan villages the schools are physically separated from the rest of the village, and they are culturally, socially, and architecturally distinct from it (see page III-26). Schools, by and large, are considered the domain of the white man from outside the village.

Placing television sets solely in the schools can give the schools actual, if not legal, control over them. Since the television sets are in the school building, they are perceived as part of the educational establishment, and not as belonging directly to the village.

However, the trend in rural Alaska has recently been toward giving Natives control over operations which effect them. Therefore, placing television sets solely in the schools goes against the government objective of giving Native Alaskans control over operations which affect them. If they are to exercise control over use of television within the villages, then there must be television access outside the schools.

(2) Recommendation

Television programming for rural Alaska must be accompanied by resources and explicit instructions for videotaping and watching at the villager's convenience.

(a) Basis for the Recommendation

ESCD/Alaska has shown that both inside and outside of the formal school situation, the videotape mode, as opposed to the real-time viewing mode, is best suited to attracting high participation without disrupting village life.

In the classroom, the value of flexibility, such as provided by videotape players, far exceeds the value of real-time viewing and interaction such as provided by ESCD (see Figure III-11). In addition, placing a stationary TV set in one classroom, as required by real-time viewing of ESCD programs, creates conflicts over that classroom (see Figure III-12).

Outside of the formal school situation, viewership at adult programs is influenced more by village-specific activity schedules than by variations in programming. Consistently high attendance at the programs occurs only when the event is incorporated into the village activity schedule (see Figure III-3).

Television which attracts the highest participation and disrupts life the least in the villages must allow customized scheduling for each classroom and each village. The best way to allow for customized scheduling is to provide resources and instructions for videotaping. Resources include a videotape recorder and player, and a supply of blank tapes. Most Alaskan villages have videotape machines, but there is a shortage of blank tapes.

A village level management problem is how to decide which tapes to erase to make room for new programs, and which tapes to keep for repeated viewing.

c. Two Necessary Complements to Satellite Television in Rural Alaska

(1) Recommendation

As a complement to satellite telecommunications systems, regional media networks must be developed to meet the demand for region-specific programming. The demand has several sources:

- Widely varying ideas on how much television is good for rural Alaska (see Figures III-4 and III-5);
- Interest in regional topics and issues (see Figure III-15);
- Interest in Native Language broadcasts, especially as generated by the Bilingual Education Movement (see Figure III-16 and Section IV);
- Probable demand for region-specific educational materials generated by the July 1976 regionalization of the Alaska State Operated School System (see pages III-46 and III-47).

(a) Basis for the Recommendation

ESCD/Alaska has shown in several ways that there is demand for region-specific programming.

First, user reaction to ESCD programming shows that Alaskans from one part of Alaska do not necessarily enjoy programs about other parts. Alaskans, in general, enjoy programs about their own region more than they do programs about other regions (see Figure III-15). Planners of media networks must keep in mind that the rural Alaskan population is heterogeneous, and varies culturally from one region to another more than do different areas of the United States (see Section IV).

Second, user reaction to ESCD shows that there are serious obstacles which prevent satellite television Native Language channels from being used more than marginally (see Figure III-16). As the Bilingual Education Movement grows in strength (see Section IV), the demand for Native Language programming, especially within the schools, is likely to increase. However, there are in Alaska 20 distinct Native Languages and five separate language groups representing widely varying levels of language viability. Clearly, Native Language broadcasts are best handled regionally, on a language-group by language-group basis.

Third, user reaction to ESCD/Alaska has shown that there is a serious controversy among rural Alaskans on how much television programm appropriate for rural Alaska (see Figures III-4 and III-5). On this basis, it would seem that to the extent there are varying opinions about the value and desirability of television hroughout the state, there should be varying, regionally tailored solutions.

A current development in Alaska seems likely to intensify the above-described demand for region-specific media service. On July 1, 1976 the Alaska State Operated School System will be administered from regional centers. Until now, it has been administered centrally. Regional administration implies some degree of region-specific curriculum and programming needs.

(2) Recommendation

As soon as there is satellite telephone in rural Alaska, audio interaction should be used without video programming in three ways:

- Phone-in conversation radio programs like those found in most population centers in the lower 48;

- Conference calls to hold meetings among teachers, village councils, village corporations, etc.;
- Administration and management of media services and educational materials distribution.

(a) Basis for the Recommendation

ESCD/Alaska has shown that it is questionable whether interaction as an integral part of television programming can ever work well for small children, or for general adult audiences (see Figures III-9 and III-10).

However:

- ESCD users have many innovative ideas on how to use interaction, most of which require only audio (see Figure III-13);
- Audio interaction will be available at low cost once there is statewide satellite telephone;
- There is ample evidence that audio interaction does work well for small groups with focused common interests.

2. How Can Control of Alaskan Rural Media be Delivered to the Villages?

In this section, three investment strategies are presented whose net predicted effect is to move rural media in Alaska under villager control, and therefore to move rural media toward being responsive to rural Alaskan needs and desires for media service.

Subsidies are recommended at three levels:

- Development of Alaskan Native programming capability;
- Purchase of programming on behalf of rural Alaska by ESCD Consumer Committees;
- Hiring and training of village Media Managers.

The recommendations are presented along with a summary of the basis for arriving at the recommendations. The recommendations presented here are not satellite television specific, but apply to virtually all media services and modes of distribution.

a. Recommendation

To give Alaskan Natives direct participation in programming, the appropriate investments are in regional and local media networks and programming.

(1) Basis for the Recommendation

It is hard to imagine a higher leverage investment in cultural pride and awareness than high quality television programming by and for Alaskan Natives. However at present there are very few Native Alaskan media professionals. The staff for writing, producing, and broadcasting the three ESCD programs was overwhelmingly white (approximately 90%).

Regional networks would provide more low level jobs for moving Natives in and up in Alaska's media industry than would the same coverage using satellite television. Regional networks would place less demands on slick professionalism, and therefore give more opportunity for on-the-job training.(see pages III-47 thru III-50).

It seems probable that satellite television would inhibit the growth of regional media networks and programming. If programs are available to villagers via satellite, incentive to develop local networks and programs would be eliminated or at least reduced.

On the other hand, strong regional networks would stimulate the growth of a satellite media system which would not only serve rural Alaska, but would also represent it. Regional networks would provide pools of Alaskan media experts, and of Alaskan-produced programming.

The above will be the case, however, only if regional networks precede the satellite television system. With the imminent advent of satellite telephone (see Section II), momentum is clearly on the side of satellite television. Therefore, if the objective of communications in rural Alaska is to strengthen Native cultures, then the appropriate current investment is in regional networks and programming, not in satellite television.

b. Recommendation

ESCD Consumer Committees (including Utilization Aides) should be given funds for buying programming on behalf of rural Alaskan villages. Awards of programming resources should be made on the basis of samples submitted by potential programmers in competitive bid fashion. Teachers should participate as advisors on children's programming. The Consumer Committee must be allowed to use the money to either buy already existing programming, or to contract for new programming (see pages III-56 through III-58 for recommendations regarding the new programming.)

(1) Basis for the Recommendation

Consumer Committees as they are now set up (a purely advisory capacity) are rewarding for the members and generate enthusiasm (see Figure III-17). However under the current arrangement members do not initiate programs, but only approve them; and they are not always free--for logistical, expertise, and cultural reasons--to exercise veto/approval power (see Figure III-18 and III-19). ESCD Consumer Committees, then, represent a valuable investment in consumer education, but they do not represent a model for villager control of rural media.

The only way to give villagers control over rural media is to give them real approval/veto power, which means purchasing power. They must be empowered to decide how much money is spent by whom on what media services for rural Alaska. It is, of course, too much to ask villagers that they make purchasing judgments without some education about what is available, and how programming is accomplished. ESCD has provided the prerequisite consumer education for a nucleus of village residents.

The role of government subsidy should be to use incentives to stimulate programmers to compete against each other to please the consumers. A good way to stimulate competition is to put funds in the hands of the users, to subsidize the investment in programming. The way to inhibit innovative competition is to subsidize the programming itself, to put funds directly in the hands of programmers and producers. (See pages III 56-57 for a discussion of the interrelationships of subsidy, competition, innovation solution to rural Alaskan media problems.)

Teacher participation in an advisory fashion is appropriate since the Consumer Committees represent the teacher's constituents. The Consumer Committees represent the parents of the students.

Federal matching of Native Organization monies donated for subsidization of village programming purchases may be the appropriate funding strategy.

c. Recommendation

Funds should be made available, and procedures set up for the hiring and training of a Media Manager for each rural Alaskan village. The Media Managers must work for the villages, and be hired and paid by the villages. They must not be employees of the state government, because an important part of their job is to represent the villages as consumers of government media services. They must be totally free to tell the state government when it is and when it is not providing satisfactory media service.

(1) Basis for the Recommendation

ESCD/Alaska showed that if satellite TV programming is to function optimally and responsively, a number of duties must be performed at the village level (see pages III-60 through III-77). The duties are of the following types:

- Information management in two directions: Tell programmers what media services villagers like and do not like, and tell villagers what programs and services are available (see Figures III-21, III-22, and III-23);
- Activities coordination: Fit adult programming into the social life of the villages, organize interaction, and provide activities for children during adult programming (see Figures III-3, III-24, and III-26);
- Leadership, especially if the television sets are placed in the village schools (see Figures III-27 and III-30);
- Media paraprofessional: Collect and report local news, and organize visits by film crews, etc (see Figure III-27).

The issues addressed by the above list are much larger than satellite television. They encompass all media service to rural Alaska.

For most of us, control of media services is at the knobs of our radios and televisions. For rural Alaska, however, whoever has media access has a virtual monopoly. Therefore, the analogue to our knobs must be for the whole village, and it is appropriate for Alaskan villages each to have a Media Manager.

3. Television Programming for Rural Alaska

In this section strategies for allocating programming resources and specific directions for future programming are presented.

The recommendations presented here are not satellite TV specific, but refer to all modes of programming distribution.

a. Recommendation

Commitment to broadcast programming, and commitment of resources to new programming must be separate decisions. Commitment to new programming must only be made after a survey of existing materials shows that new programming is needed.

(1) Basis for the Recommendation

Adult perceptions of the two children's programs--Basic Oral Language Development ("Amy and the Astros"), and the Health Program ("Right On") were quite different. "Amy and the Astros" was often perceived as a competitor to "Sesame Street" (Figure III-31), whereas "Right On" was perceived, especially by teachers, as a significant new addition to village school curriculum (Figure III-34).

Obviously, there is no sense funding and producing new programming when satisfactory material is already available. The only justification for doing new programming in areas where satisfactory material already exists is the need for "culturally relevant" programming.

b. Recommendation

If programming which is specially tailored to be culturally relevant to rural Alaskan audiences is the objective, then the appropriate investment is in training Alaskan Native media professionals (or "forcing" Alaskans to improvise) in all areas including: Script writing, directing, acting, puppeteering, etc.

(1) Basis for the Recommendation

Although cultural relevance was an objective of ESCD/Alaska programming, cultural relevance was not seen by users as a salient feature of the children's programs, especially Basic Oral Language Development (see Figure III-31).

The reasons appear to be as follows: The important dimensions of Alaskan Native cultures--and of all cultures--are not material, but social and behavioral. Since the programming, production and broadcasting staff were overwhelmingly white, cultural relevance of children's programming could, in general, only be "material." The method of broadcast, and the invisible perspective from which the broadcaster speaks, may be more important than the obvious message.

It would seem easier to teach programming to people who know the subtleties of Alaskan Native cultures than to teach the subtleties to people who know programming. Therefore: To obtain more than trivial cultural relevance, direct participation by Natives (either professionals or pseudo-professionals--not amateurs in an advisory capacity) in script-writing, casting, acting and directing are necessary.

A strategy for developing Alaskan Native media capability is described on pages III-87 and III-88.

c. Recommendation

Telecommunications in rural Alaska, including satellite communications, should take as its mandate: Solution to the "High School Problem." Three alternatives for augmenting village high school curriculum are:

- Materials Distribution access of already existing programming (See Section V);

- Audio interaction to allow teacher sharing (see Chapter figure III-33);
- New programming on Alaskan Native History (see pages III-90 through III-92).

(1) Basis for the Recommendation

Sending rural Alaskan students to boarding high schools in the lower 48 or in population centers in Alaska has had some tragic consequences, and to alleviate the problem some village high schools are being built. However villages have neither the expertise available nor the educational materials to deliver full quality high school education. Teachers perceive that the pressing need for curriculum augmentation in rural Alaska is at the Junior High and Senior High levels (see Figure III-33).

A good way to arrive at programming which is responsive to audience needs is to derive the programming from specific, serious problems. Therefore, telecommunications in rural Alaska should consider taking as its mandate solution to the "High School Problem."

d. Recommendation

A profitable area for programming experimentation is to film interviews of government officials, and other people who effect the lives of residents of rural Alaska, in a village setting in front of a live audience of village residents.

(1) Basis for the Recommendation

ESCD/Alaska has shown that using the current Alaska Native Magazine format, white administrators and city Natives do not talk so village audiences can understand (see Figure III-32).

However, it would be throwing the baby out with the bathwater to opt for pure entertainment programs, and give up the idea of "serious" adult programming, such as interviewing of government officials for village consumption.

A solution to the problem of interviewees talking above the heads of village audiences might be to film the interviews in the villages, using a live audience which asks questions and speaks up when they do not understand.

Live interaction with viewers in other villages would be sacrificed, however it seems probable that the improvement in conversation would far offset the loss. Perhaps it is more important that the speaker see, hear, and feel how the audience is reacting than it is for the entire audience to have the potential (as opposed to the reality) of access to the speaker.

In a cross-cultural situation, perhaps speaker access to a live audience like those he is addessing is more important to good interviews than their access to him (which is limited in any case by the fact that questions can be asked only one at a time).

SUMMARY OF RECOMMENDATIONS

I. SATELLITE TELEVISION AND THE MEDIA REQUIREMENTS OF RURAL ALASKA

A. Criteria for Investment in Satellite Television

RECOMMENDATIONS	BASIS IN ESCD EXPERIENCE
1. Undertake telecommunications demonstrations in rural Alaska only when there are resources and commitment for putting aspects of the demonstrations which users deem successful directly into operations.	Rural Alaskans resent being given access to satellite television, only to have it taken away. Since effective demonstrations require enthusiastic participation on the part of users, demonstrations perceived by rural Alaskans as temporary are not a good investment of taxpayers' money.
2. Undertake satellite television operations only when they can be justified on the basis of cost-effective, timely access to programming.	Satellite television cannot be justified on the basis of real time viewing, live video programming, or live interaction incorporated with video programming. The remaining function performed by satellite television is access to programming.

B. Mandatory Components of a Satellite Television System

RECOMMENDATIONS	BASIS IN ESCD EXPERIENCE
1. Television sets must be placed in village community centers as well as village schools.	Placing sets solely in the schools makes many potential adult viewers uncomfortable, can give schools actual if not legal control over village television, and therefore goes against the current trend of giving Natives control over operations which effect them.
2. Television programming for rural Alaska must be accompanied by resources and explicit instructions for video-taping and watching at the villages' convenience.	Both inside and outside the classroom, the value of flexible scheduling exceeds the value of real time viewing. Television which attracts the highest participation and disrupts life the least in the villages must allow customized scheduling for each village and classroom.

C. Complements to a Satellite Television System

RECOMMENDATIONS	BASIS IN ESCD EXPERIENCE
1. As a complement to satellite communications, regional media networks must be developed to meet the demand for region-specific programming.	Region-specific demand has several sources: Varying ideas on how much television is good for rural Alaska; Interest in regional topics and issues; Native Language broadcasting; Regionalization of school systems.
2. As soon as there is satellite telephone, audio interaction should be used without video programming.	ESCD users have innovative ideas for audio interaction use. For the cost of telephone calls, the following will be possible: phone-in conversation radio programs; conference calls to hold meetings; audio management of media services; and education materials distribution.

II. HOW CAN CONTROL OF ALASKA'S RURAL MEDIA BE DELIVERED TO THE VILLAGES?

A. Subsidize the Development of Alaskan Native Programming Capability

RECOMMENDATIONS	BASIS IN ESCD EXPERIENCE
1. To give Alaskan Natives direct participation in programming, the appropriate investments are in regional and local media networks and programming.	Programming by and for Native Alaskans is a high leverage investment in cultural pride and awareness. However, at present there are very few Native Alaskan media professionals. Regional networks would provide more low level jobs for moving Natives in and up in the media than would the same coverage via satellite, and they would require less slick professionalism. It seems probable that satellite television would inhibit development of regional networks, but that regional networks would stimulate healthy growth of satellite programming if regional networks precede the satellite system.

B. Subsidize the Purchase of Programming by ESCD Consumer Committees

RECOMMENDATIONS	BASIS IN ESCD PROGRAMMING
1. ESCD Consumer Committees (including Utilization Aides) should be given funds for buying programming on behalf of rural Alaskan villages. Purchase of programming should be made on the basis of samples submitted by potential programmers in competitive bid fashion. Teachers should participate in the Consumer Committee as advisors on children's programming.	Under the ESCD arrangement, Consumer Committees only advise programmers, and represent only token control. They do, however, represent a valuable investment in consumer education which must be capitalized on. The only way to give villagers control over rural media is to give them real approval/veto power, which means purchasing power. Teachers as advisors is appropriate since Consumer Committees represent the teachers' constituents, i.e., the parents of the children they teach.

C. Subsidize the Hiring and Training of Village Media Managers

RECOMMENDATIONS	BASIS IN ESCD PROGRAMMING
1. Give each rural Alaskan village funds for the hiring and training of a Media Manager. The Media Managers must be employees of the villages, not of the State Government.	Whoever has media access to rural Alaskan villages has a virtual monopoly. Therefore, there must be the analogue to the knobs on our radios and televisions for whole villages. ESCD experience with Utilization Aides has shown that Media Managers must perform duties in the following areas: tell programmers what media services villagers like and do not like, and constantly keep villagers aware of what media services are available; coordinate viewing of adult programs and activities for children during adult programs; provide leadership, especially if the television set is in the school; collect and report local news for media transmission; organize visits by television film crews;

III. TELEVISION PROGRAMMING FOR RURAL ALASKA

A. Strategies for Allocating Programming Resources

RECOMMENDATIONS	BASIS IN ESCD EXPERIENCE
1. Commitment to broadcast material and commitment of resources to new programming must be separate decisions. The commitment to new programming must be preceded by a survey of available programming.	ESCD user reaction to programs which overlapped with existing available programs, and to programs which filled a curriculum need were quite different. Obviously, there is no sense funding new programming when satisfactory material already exists.
2. If "culturally relevant" programming is the objective, then the appropriate investment is in training Alaskan Native media professionals.	ESCD programming and production staff was overwhelmingly white, and cultural relevance was not seen by users as a salient characteristic of the children's programming. The important dimensions of Alaskan Native cultures are social and behavioral, and therefore subtle. It would seem easier to teach programming to people who know the subtleties than vice versa.

B. Specific Areas for Future Programming

RECOMMENDATIONS	BASIS IN ESCD EXPERIENCE
1. Telecommunications in rural Alaska should take as its mandate: solution to the "high school problem." Three alternatives for augmenting village high school curriculum are: materials distribution of already existing programming; teacher-sharing via audio presentations and supervised interaction; new programming on Alaskan Native History.	Sending rural Alaskans away from their villages to high school has tragic consequences. Therefore, village high schools are being established. However, villages have neither the expertise nor the educational materials available to deliver full high school education. Alaskan Native History is an area where high school students might use audio interaction to develop their own programming.
2. Government officials and other people who effect the lives of rural Alaskans should be interviewed for television transmission in a village setting, in front of a village audience which asks questions and speaks up when they do not understand. (Media Managers must take a leadership role here.)	Using the current Alaska Native Magazine format, white administrators and city Natives do not talk so village audiences can understand. Perhaps a solution is for the speaker to see, hear, and feel how an audience like the one he is addressing via television reacts.

SECTION IV

SOCIAL CHANGE IN RURAL ALASKA

A. INTRODUCTION

The potential impact of educational TV, such as that demonstrated by ATS-6, cannot be assessed without first looking at other social and economic forces affecting the state's rural residents, particularly Alaska Natives. Major events are happening at an unprecedented rate, multiplying on one another to create change, perhaps in competing directions. Educational TV fits somewhere, primarily because it is inevitable. But to give it the best fit possible it must be hewn to the size and shape offered it by the forces of current events.

B. TOPICS FOR DISCUSSION

In this section, a selection of such forces is outlined to give the reader a sense of perspective for ESCD. The topics selected for discussion are:

1. Pipeline Impact on Alaskan Natives;
2. The Alaska Native Claims Settlement Act;
3. The Trend Toward Regionalization of Control;
4. The Alaskan Bilingual Education Movement;
5. Rural Secondary Education;
6. The Context of Telecommunications;
7. Additional Alaskan Experiments in Rural TV.

These topics share a theme: acceleration of the rate of change for Alaskan Natives. Some events primarily reflect change, such as the trend toward regionalization; other, such as the pipeline, primarily cause change. All, however, accelerate the advancement of change and thus are important.

1. Pipeline Impact on Alaskan Natives

Construction of the Trans Alaska oil pipeline has brought the focus of the nation and the world on Alaska more than any recent event. Bisecting the state over its 789 mile course, current cost estimates place the construction price at $6.3 billion, compared with the first estimate in 1969 of $900 million.

Built by the Alyeska Pipeline Service Company, a construction consortium of eight oil companies, to transport oil from the enormous field discovered at Prudhoe Bay in 1968, the pipeline's construction will employ over 14,000 workers in 1975 and 1976. The profound effects of this massive undertaking on the State in general have yet to be grasped completely. For Alaska Natives, the social and economic effects are equally diffuse but some general areas certainly invite discussion.

Natives living in the path of the pipeline face direct exposure to a powerful example of the pervasive American dominant culture. Even though such exposure is to aspects of the dominant culture in selective and exaggerated forms, the intensity of the contact is powerful. A 1971 report commissioned by the U.S. Bureau of Indian Affairs estimated this direct contact to include as many as 20 percent of Alaska's Native population in urban centers as well as rural villages. (About 25 percent of the Native population live in Alaska's cities.)

During the pipeline construction period through 1976, the impact on Native employment is of major concern, both to the state as well as to Alyeska. Through legislation effective July, 1972, a provision to employ Alaskan residents must be incorporated "into all oil or gas leases, easements or right-of-way permits for oil or gas pipeline purposes...to which the state is a party." This statute, although not specifically guaranteeing a preference to hire Natives, at least increased the probability that such would be a general effect. The stimulus for hiring Natives in pipeline construction comes with various Affirmative Action Plans required by the U. S. Department of the Interior, such as the one negotiated with Alyeska to guarantee at least $200 million in contract bidding opportunities and $155 million in contract awards to minority businesses.[1]

In general, the expansion of pipeline related employment is only temporary and is expected to fall off drastically once the oil begins to flow. But while it is under construction, the social change effects are still considerable. A recent front page news article[2] reported the findings of a state Labor Department study, predicting a downturn in the Fairbanks economy in 1977. The severity of the slump was dependent on the proportion of Alaskans preferentially hired for pipeline construction. As an example, assuming 45 percent of pipeline workers are nonresidents, the study estimated the flow of wage-generated capital out of the state to have run in excess of $40 million[3] in the fourth quarter of 1974.

These figures give the reader some idea of the amounts of money exchanging hands. While current figures on the numbers of Native workers on the pipeline are unavailable, even small proportions add up to rather large amounts of money. Based on a current estimated daily construction payroll of $3 million, each work force percentage point accounted for by any particular group would amount to about $30,000 per day, or $2.7 million per quarter. Thus, a proportion of Natives, even as low as five percent would mean $13.5 million per quarter in Native wages during pipeline construction.

To the extent then, of rural Native employment, there is a proportional upsurge of new personal income brought back to the worker's home villages. Since poverty is more than eight times as prevalent among Alaska Natives than among non-Natives, the resulting new local wealth is not insignificant even though the direct flow is temporary.

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[1] Source: Fairbanks North Star Borough, Pipeline Information Center Report, Number 13, February 19, 1975.

[2] Fairbanks Daily News-Miner, September 23, 1975.

[3] Assuming (a) all nonresident wages are spent outside the state and (b) a 1.5 "multiplier effect" where each invested wage dollar yields 1.5 times its original investment in Alaska.

Because pipeline construction camps are generally built in locations removed from the work force virtually all workers must leave their homes to be employed, creating new personal and family adjustment problems for most employees. Such problems are no less acute for Native workers than for whites -- perhaps even more acute. Urban, and even rural whites come from a white dominant situation to another white dominant situation, organized to provide life as close as possible to the comforts of home, at least within the rigorous conditions of the job at hand. Movies, television, recreation, lots of good food, and high pay are offered as surrogate luxuries for the missing features of "back home." For the rural Native worker, such a life is often just the opposite, exerting new life style pressures rather than substituting for old ones. Shifting the Native from a position to which he has adjusted within his Native dominant home to an extreme environment where he is culturally subordinate, increases the adjustment difficulty. The paradox, descriptive of many instances of cultural change, is that the Native can only win by losing. That is, he either fails to adjust and returns to the village, or he adjusts to a new life style and sheds an old one.

To the extent the village labor force migrates to pipeline construction sites, the impact on most villages is to increase the ratio between dependent and the economically productive village citizens. Among Alaska's twelve regions established under the Alaska Native Claims Settlement Act of 1971, the percent of Natives between the ages 16 and 64 ranged from 32.4 to 56.2, compared to non-Natives ranging from 48.3 to 86.4 percent. In all rural areas the percentages are 39.8 and 58.6 for Natives and non-Natives respectively.[1]

The kind of social force represented by increasing the dependency ratio, accelerates Native social change in at least two important ways. First, pipeline employment removes from the village a class of important role models for transmitting culture. Second, it changes the role model itself so that, upon their return, new behaviors are introduced and old behaviors have a lower probability of being repeated. The net effect is to accelerate change to some degree, the magnitude of which cannot be gauged easily, and the desirability of which is a matter of opinion. Many of these effects may be short-lived, subject to the frenetic pace of any "boom" period, in which a rush to exploit wealth causes, if not blindness, at least an active myopia to the potentially disruptive after-effects of the movement. Certainly the state and Alyeska by effect, have moved toward softening this aspect of the "boom's" immediate impact to some extent, ironically because of pressure by Native spokesmen to ensure the Native community would not be left out of the economic windfall natural resource exploitation would occasion.

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[1] Source: 1970 census figures, as quoted in the 2 (c) Report: Federal Programs and Alaska Natives, Robert R. Nathan Associates, Inc. 1975.

For Natives, the more general and long-term positive effects of oil and resource development are economic as well as social. The State Treasury will benefit greatly from the revenues of oil production beginning sometime in 1977. Projections have estimated anywhere from $123 million to $361 million per year through the year 2000, totaling up to $8.8 billion, excluding the $900 million windfall to the State Treasury in 1969 from the sale of oil leases. Even compared with record state operating budgets, these new sources of revenue will enable the state to increase markedly its ability to fund necessary social programs at an unprecedented level. With a general increase in the power of the Native voice heard in recent years, the probability that these new revenues will be applied to Native social concerns will likewise improve proportionately.

A second general economic effect of oil development is direct financial benefit to Native profit-making corporations. Created by the 1971 Alaska Native Claims Settlement Act, noted earlier, these regional and village corporations will receive a two percent royalty on gross mineral production until the royalties equal $500 million: probably in the late 1980s.[1] This wealth is a vehicle for economic power complementing a rise in Native political power to bring about a new era in Native control over their destiny, which can only become more difficult for the state and its non-Native populations to ignore.

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[1] 2(c) Report. op cit.

2. The Alaska Native Claims Settlement Act

The Alaska Native Claims Settlement Act, Public Law 92-203, was signed into law on December 18, 1971. The Act conveys to twelve Native regional corporations and about 210 village corporations, selection and title to 40 million acres of land, and $462.5 million from the federal treasury, disbursed over a 15 to 20 year period. An additional $500 million will be derived from a two percent mineral royalty, including royalty from development of Arctic Slope oil. The twelve regional corporations will hold title to the 40 million acre subsurface estate and about one-half the surface estate. About one-half of the money received will be retained by the regional corporations with the other half disbursed to the village corporations and regional corporation shareholders not holding village corporation shares (called at-large shareholders).

The Settlement Act recognized the validity of aboriginal claims to the land and its wealth by reason of habitation and use prior to contact with white men. Although not universally seen among Natives as entirely just, the settlement was envisioned to establish a sound economic base for overcoming long standing conditions of poverty and powerlessness. The Regional and Village Corporations were created by the Act to be Native controlled to make profit for Native investors.

It must be clearly understood, therefore, that existing social service programs will not be subsidized by Settlement Act money. As stated in the 2(c) Report:

> If benefits received from the Act ... were to be regarded as income for program eligibility purposes, a contradiction to the intent of the statute would occur.
>
> These benefits would amount to no more than an income substitution.
>
> For the poor, then, the possibility exists that dollars received from the Settlement Act will simply replace federal (and state) program dollars. While Native families who live on incomes above the poverty level would apply the dividend payments as supplements to their incomes, those living below the poverty level would simply see their public assistance support decreased in proportion to the value of the dividend

> payment and enjoy no net benefit or relief from poverty. Denying Native families who are poor benefits from the Settlement Act which other Natives enjoy lurks as potentially the most cruel effect of federal program policies. (V.I, p.7)

The Settlement Act will continue to stimulate far reaching change, not only among Alaska Natives but among all of Alaska's institutions and people. Beside the infusion of new wealth, the Act creates new kinds of job opportunities. Capitalizing on the momentum of the original investment has also met with an acute shortage of Native manpower. In a 1973 study, Kleinfeld, Jones, and Evans estimated the Native manpower demands through 1978 for Regional and village, profit and nonprofit corporations. The figures in this study were conservative and applied only to the new Settlement Act corporations, not the new businesses and organizations created by the investment of corporation capital. The demand was estimated to be for "at least 400 to 600 professional, subprofessional, and clerical personnel...in FT 1978," nearly half of which would require professional training.

In this way Alaska's institutions of higher education are greatly affected by the Settlement Act. New training programs are needed to supply the unique demands for professionals in management and middle management positions. The universities of Alaska have only recently addressed these needs by looking to new methods of rural outreach, largely in response to Native expressions of dissatisfaction with the universities' prior levels of performance. A report issued by the Alaska Native Foundation (Dec. 1974) pointed out:

> Between 1967 and 1972 an average of 22 Alaska Natives per year graduated from college in Alaska. Of these, six majored in economics, three in office administration, and one in wildlife management. The rest of the graduates majored in fields not directly related to the administration of the Settlement Act, such as education, sociology and the humanities.

Estimates of Native graduates in 1974 indicate no more than five graduates out of 40 majored in areas directly relatable to management of the Settlement Act. In many cases, Native graduates in unrelated majors are nonetheless "drafted" into regional corporation jobs because the need is so great.

Recognized by all parties as the solution to this pressing problem is the need for Alaska's universities to take training "to the people." New organizational structures have been created for establishing a rural presence statewide, through which manpower training can be effected. In addition to an increasing awareness of the need and creation of new structures to manage the outreach, new media are needed to bring the content of training to the field. Again, the opportunity is at hand to evaluate the ability of telecommunications to enter easily into this aspect of the stream of social change.

3. The Trend Toward Regionalization of Control

Perhaps the most far-reaching outcome of the struggle for the settlement of Native claims in Alaska has been the mobilization of Native efforts to control Native affairs. In the last ten years Alaska has witnessed the establishment of a unified Native organization, the Alaska Federation of Natives (AFN); the creation of a powerful Native political and economic base; an increase in awareness by Natives and non-Natives of the need for local and Native control; and the implementation of new organizational structures in Regional and village corporations for voicing the need and assuming control.

These factors represent a slow but steady movement against government treatment of Natives which has historically been unresponsive and paternalistic. Since 1970, official federal policy has shifted from one of assimilation of Native Americans into the dominant culture mainstream to one of self-determination over policies and programs. The 2(c) Report discusses Native political relationships to government. The study comments on the recent increase in statewide and regional advisory boards, and the development of local contracting capabilities.[1]

> Today, most federal and state agencies serving Natives have statewide if not regional advisory boards, and a few have begun to contract out their services to Native corporations. Ten years ago, there were few Natives holding positions of responsibility, now there are literally hundreds. Areas of the state which had previously consisted of loosely knit ethnic groups are now composed of well-organized regional organizations based on close village interrelationships.(.3)

A tangible result of the increased ability and interest Natives have in assuming local control is the decentralization of the Alaska State Operated School System (ASOSS). Up to now Alaska has functioned under an overly complex three-part school system consisting of: (1) 29 local school districts with school boards elected locally; (2) ASOSS, serving rural (and until recently, military on-base) schools in what is termed the "unorganized borough," i.e., areas not yet formed into boroughs or municipalities; and (3) federal schools operated by the U.S. Bureau of Indian Affairs, also in the "unorganized borough."

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[1] 2(c) Report. op cit.

The problems inherent in this arrangement were brought to light in a study[1] conducted by the Center for Northern Educational Research, after considerable testimony was elicited from Native organizations and education agencies. The main problem was summarized thus:

> Three completely different administrative and policy-making arrangements must by their very nature be inherently unequal. These arrangements at the very least guarantee an inequitable distribution of financial resources, policy control, and educational opportunity, thus thwarting the intention of the Constitution calling for State responsibility for the education of all the children of Alaska. In nearly all instances elsewhere in the United States the people of local school districts are permitted through legislative action to exercise local control by means of an elected school board. Because their school boards are only advisory, the residents of local communities with State-Operated Schools or who are under the BIA system have no legal authority to determine the educational programs designed for their children. (p.2)

The statewide pressure to decentralize, of which the above study was only a part, resulted in the recent passage of Alaska Senate Bill 35 in the Spring 1975 session.

SB 35 is now in its first phases of implementation. The bill calls for the division of the unorganized borough into regional attendance areas for operating public schools governed by elected boards with the same policy-making authority as that vested in independent school districts. Provision is made in SB 35 for schools currently under BIA operation to join a regional attendance area, upon choice of the community.

Under the law, regional school boards will assume their full education functions by July 1, 1976, an awesomely rapid pace for implementing one of the most important changes in the status of Native control.

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[1] Darnell, F., Hecht, K., and Orvik, J.M. Prehigher Education in the Unorganized Borough: An Analysis and Recommendation, Center for Northern Educational Research. January 1974.

4. The Alaskan Bilingual Education Movement[1]

Linguists have identified 20 distinct languages spoken among Native people of Alaska (Krauss, 1974). The classification of these languages has been done admirably well elsewhere (Krauss, 1973, 1974) so only a general summary will be attempted here. Table IV-I shows Alaska Native languages classified into their major linguistic families, with the approximate numbers of living speakers given for each. The geographical distribution of the major language groups places the Eskimo-Aleut group -- Inupiaq, Central Yupik and Sugestun -- on the North, West and Southwest coastal areas, with Siberian Yupik and Aleut occupying St. Lawrence Island, and the Aleutian chain respectively. The Athabaskan-Eyak groups occupy the interior of Alaska extending into the Southcentral region and westward into Canada. Southeastern Alaska comprises the Tlingits, Haida and Tsimshian language groups, extending southeast from Cape Yakataga to the southeastern-most tip of Alaska. A map of Alaska Native peoples has been prepared and provides an accurate and comprehensive display of the geography of Alaska Native languages.[2]

As has been the fate of many language minorities throughout the world a number of Alaskan native languages have become disused, some to the point of extinction, during the years of contact with other cultures. Within Alaska, native languages exist in various stages of transition. The general pattern of language viability in each language family can be shown by classifying native communities according to the following types:

Type A. Monolingual Native: Fluent native-language speakers of all ages, including all or many children;

Type B. Bilingual: Few or no speakers under 10 years of age;

Type C. Monolingual English: Few or no speakers under 30 years of age.

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[1] Research funded in part by grants from the National Institute of Education, the U.S. Office of Education, the Ford Foundation, and the Alaska State Department of Education. Portions of this section are from: Orvik, James M., an overview of Alaska Native bilingual education, Topics in Culture Learning, Vol. 3, 1975.

[2] Additional information regarding this map can be obtained from Dr. Michael Krauss, Alaska Native Language Center, Univ. of Alaska, Fairbanks, Alaska 99701.

TABLE IV-1

ALASKA NATIVE LANGUAGES AND POPULATIONS*

LANGUAGE FAMILY	LANGUAGE NAME	POPULATION	NUMBER SPEAKING
ESKIMO-ALEUT			
Aleut:	Aleut	2,000	700
Eskimo:	Sugpiaq	3,000	1,000
	Central Yupik	17,000	15,000
	Siberian Yupik	1,000	1,000
	Inupiaq	11,000	6,000
TSIMSHIAN	Tsimshian	1,000	150
HAIDA	Haida	500	100
TLINGIT	Tlingit	9,000	2,000
ATHABASKAN-EYAK			
Eyak:	Eyak	20	3
Athabaskan:	Ahtna	500	200
	Tanaina	900	250
	Ingalik	300	100
	Holikachuk	150	25
	Koyukon	2,100	700
	Upper Kuskokwim	150	100
	Tanana	360	100
	Tanacross	175	120
	Upper Tanana	300	250
	Han	65	20
	Kutchin	1,100	700

* Source: Map of Alaska Native Languages, Alaska Native Language Center, University of Alaska, Fairbanks 99701.

Table IV-2 shows the number of communities of each type (A, B, or C) by language family. As can be seen from both tables, one and two, the most viable languages are in the Eskimo-Aleut family, particularly the Central and Siberian Yupik Eskimo dialects. The languages of southwestern and interior Alaska are the least viable, many of which are extinct or at best moribund.

TABLE IV-2

NUMBERS OF ALASKAN NATIVE COMMUNITIES
BY LANGUAGE GROUP AND LANGUAGE USE

LANGUAGE USE*	LANGUAGE GROUP					
	ESKIMO-ALEUT	ATHABASCAN-EYAK	TSIMSHIAN	HAIDA	TLINGIT	TOTAL
TYPE A	31	5	0	0	0	36
TYPE B	40	7	0	0	0	47
TYPE C	54	39	1	2	13	109
TOTAL	125	51	1	2	13	192

*Definition:
Type A - All people speak the native language including children.
Type B - Some children speak the native language.
Type C - No children speak the native language.

A comprehensive account for why such patterns of viability have taken place is a complex sociolinguistic question. The necessary research has yet to be done, even if the proper questions were well enough formulated. The influences of dominant culture contact provides only part of the answer. Other factors, such as school policies toward native languages, or even indigenous cultural factors also have played important roles. Furthermore, until recently, most Alaskan native languages had no written form leaving them entirely to oral transmission for their survival. Today, however, all twenty languages have a written form, constituting yet another factor in analyzing patterns of language survival.

Whatever the case may be, substantial efforts to counteract the tendency toward native language loss are underway in Alaska, consistent with and perhaps reflective of the nationwide upsurge in interest in language and culture preservation. Bilingual education is the major focus of these efforts, and is discussed in the following paragraphs.

Bilingual education is now a significant presence in Alaska's native educational program. Growing mainly from experimental Yupik Eskimo programs launched in 1970, in the Southwestern part of the state, increased consciousness now exists about the potential this innovative approach holds for education in Alaska. This increase in consciousness has grown from the thinking of small groups of education planners and developers within Alaska's educational agencies and now includes substantial numbers of citizens in local communities as well as leaders on the political and administrative fronts. The social and political ramifications of bilingual education are thus beginning to be sensed in terms of their widespread implications for Alaska's future.

Until recently, this bilingual education movement has progressed in a somewhat fragmentary fashion, gaining support and direction largely through the singular efforts of individuals within agencies, organizations and institutions. Actively interested in advancing the basic principals on which bilingual education rests, either as long-standing proponents or as recent converts, such individuals have been able to capitalize on a timely increase of Federal financial support. In 1970, these efforts came to life in two prototype bilingual educational programs developed by the Bureau of Indian Affairs, and shortly thereafter by the Alaska State-Operated School System, in concert with units at the University of Alaska.

Since that time, the growth of bilingual education in Alaska has included expansion within its original programs to bring in new schools and higher grades. However, the growth has also seen increased bilingual programming in other important ways. Added to the efforts of traditional education agencies, ASOSS and BIA, new structures have been created to bring new sources of input to bear on the solution of bilingual education problems namely, the Eskimo Language Workshop, the Alaska Native Language

Center and the Alaska Native Education Board.

Jointly funded by Federal grants to the U.S. Bureau of Indian Affairs and the Alaska State-Operated School System, the Eskimo Language Workshop was founded in 1970, to develop materials and train staff for the Yupik component of Alaska's first formal bilingual educational program. First located at the University of Alaska, Fairbanks, the workshop was moved in June, 1974, to the Kuskokwim Community College at Bethel to be in the heartland of the Yupik-speaking population.

The Alaska Native Language Center (ANLC), of the University of Alaska, Fairbanks, is another new structure to have included service to bilingual education as part of its responsibility. Created in 1972 by the Seventh Alaska Legislature (AS 14.40.117), the ANLC was mandated to fulfill the following responsibilities:

1. ... to study languages native to Alaska;
2. develop literacy materials;
3. assist in the translation of important documents;
4. provide for the development and dissemination of native literature; and
5. train Alaska native language speakers to work as teachers and aides in bilingual classrooms.

While the function of ANLC includes, but is not limited to bilingual education, its type of scientific work in Alaskan native languages is a necessary step in developing any bilingual education program.

The Alaska Native Education Board (ANEB) grew out of concern for needed development of bilingual and bicultural curricula and materials in languages other than Yupik, the latter already have been well established. Located in Anchorage, the ANEB originally was funded in July 1973, under Section B of the 1972 Indian Education Act. Since its incorporation in June, 1972, ANEB has received further funding under the Indian Education Act and the Johnson-O'Malley Act.

Additionally, the Summer Institute of Linguistics (SIL) has had a long-standing commitment to Alaska Native languages dating back to 1958. Having done work in eight languages, SIL workers have made numerous contributions to ASOSS bilingual education and their expertise has been valuable in numerous statewide efforts, such as in the ESL component of the Alaska Rural School Project, University of Alaska, Fairbanks, 1966-1972.

These special structures provided much of the leadership and expertise for administrators in Alaska's educational agencies to draw upon in order to realize their bilingual education goals. In fact, it might well be said that without such leadership and expertise bilingual education would have become underdeveloped in its infancy. For example, without the linguistic expertise of the Eskimo Language Workshop, its Yupik orthography capable of carrying the development of the necessary body of curriculum materials could not have been applied. And without the leadership of the workshop, the implementation of the orthography, materials, and the Yupik literacy training could not have been maintained. Also, without a similarly active partnership between educational agencies and the Alaska Native Education Board, expansion of bilingual education programs into other widely used Native languages would not have been realized. Nor would the Alaska Native Language Center have been created to attend to maintaining and developing, through systematic application of linguistic expertise, all Alaska Native languages, especially those in current danger of extinction.

Development of bilingual programs has depended so far on the timely, but by no means guaranteed, appearance of funding external to the basic educational support of each agency, creating a sense of vulnerability, (psychological as well as fiscal), among all concerned. Each effort has developed individually with a separate source of funding, within a separate agency or structure, under separate sets of guidelines and mandates. While the net effect has resulted in unprecedented innovations in understanding and commitment to deliver quality education to Native children, this arrangement has thus far fostered an atmosphere of cautious cooperation, even occasional suspicion among participants, and unnecessarily fragmented leadership relative to what might emerge under a more coordinated effort.

Recognizing this state of affairs, the agencies and institutions currently bearing the responsibility for bilingual education in Alaska have recently united in a series of interagency meetings to increase the effectiveness of their efforts in program components. Need for effective coordination of all bilingual education in Alaska is agreed to as essential at this point among all participants. To this end, the Alaska State Department of Education (DOE) has begun to take leadership within the state, and is now pulling together current sources of expertise and experience to produce an effective statewide effort in bilingual education.

Given this general resume of agency and institutional involvement in Alaskan bilingual education, an overview of the extent to which native children are being served by various efforts is in order. Two sorts of data are presented: one, the number of school-age speakers of native languages who are receiving bilingual education, either from the Alaska State-Operated School System (ASOSS) or from the Bureau of Indian Affairs (BIA), and the other, the distribution of bilingual education programs among native communities as classified by degree of language viability. Each set of data gives a separate view of bilingual education coverage within Alaska.

Table IV-3 shows the number of school-age speakers of each Native language receiving bilingual education in some form. The kind of bilingual education program a child participates in varies generally with the source of funding each program receives, and no attempt is made in this report to distinguish among them. Some programs conform to strictly defined bilingual education models, for example, the BIA and ASOSS Yupik-language programs funded under Titles I and VII, of the Elementary and Secondary Education Act (ESEA) respectively. Other programs, however, particularly those in Type C communities, necessarily stretch most formal definitions of bilingual education to include native languages as subject matter rather than as mediums of instruction.

Table IV-4 gives the reader some idea of the relative proportions of bilingual programming for the three types of communities (A, B and C). As can be seen, the BIA has concentrated more efforts in the Type A, high

TABLE IV-3

NUMBERS OF SCHOOL-AGE SPEAKERS OF NATIVE LANGUAGES IN ALASKA BY SCHOOL AGENCY AND BILINGUAL PROGRAMMING STATUS

	AGENCY	NO. OF SCHOOL-AGE SPEAKERS	NO. OF SCHOOL-AGE NON-SPEAKERS	TOTAL	NO. SPEAKERS IN BIL. PROG.	% SPEAKERS IN BIL. PROG.
ESKIMO-ALEUT						
Yupik	BIA	2,343	542	2,885	270	11.5
	ASOSS	1,096	929	2,025	283	25.8
Total Yupik		3,439	1,471	4,910	553	16.1
Inupiaq	BIA	862	1,011	1,873	180	20.9
	ASOSS	305	489	794	222	72.8
Total Inupiaq		1,167	1,500	2,667	402	34.4
St. Lawrence Island	BIA	218	0	218	89	40.2
Aleut	ASOSS	66	472	538	13	19.7
TOTAL ALEUT-ESKIMO[a]		4,890	3,443	8,333	1,057	21.6
TSIMSHIAN[b]		0	300	300	0	
HAIDA[b]		0	100	100	0	
TLINGIT[b]		0	2,800	2,800	0	
ATHABASKAN						
Ahtna	ASOSS	0	150	150	0	
Han	ASOSS	0	20	20	0	
Holikachuk	ASOSS	0	50	50	0	
Ingalik	ASOSS	0	75	75	0	
Koyukon	ASOSS[b]	0	600	600	0	
Kutchin	BIA	17	0	17	17	100.0
	ASOSS	86	129	215	57	66.3
Total Kutchin		103	129	232	74	71.8
Tanaina	ASOSS[b]	15	250	265	0	
Tanana	ASOSS	0	100	100	0	
Tanacross	ASOSS	15	15	30	0	
Upper Kuskokwim	ASOSS	25	0	25	25	100.0
Upper Tanana	BIA	15	10	25	15	100.0
	ASOSS	25	25	50	25	100.0
Total Upper Tanana		40	35	75	40	100.0
TOTAL ATHABASKAN	BIA	32	10	42	32	100.0
	ASOSS	166	1,414	1,580	107	64.5
		198	1,424	1,622	139	70.2
AGENCY TOTALS	BIA	3,455	1,573	5,060	571	16.5
	ASOSS	1,633	6,504	8,137	625	38.3
GRAND TOTAL		5,088	8,077	13,165	1,196	23.5

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[a] Exclusive of Sugpiaq, which is served by the Kenai Peninsula Borough School Districts.

[b] Served by various school districts as well as ASOSS.

language viability community. The ASOSS has distributed its effort proportionally across all three types with the largest effort, in absolute numbers, in Type C communities.

TABLE IV-4

NUMBERS OF ASOSS AND BIA ALASKAN SCHOOLS BY 1974 LANGUAGE SITUATION AND BILINGUAL PROGRAM STATUS

	LANGUAGE SITUATION*							
	A		B		C		TOTAL A + B + C	
AGENCY	TOTAL	NO. WITH BIL. PROGRAM**	TOTAL	NO. WITH BIL. PROGRAM	TOTAL	NO. WITH BIL. PROGRAM	TOTAL	NO. WITH BIL. PROGRAM
ASOSS	15	10	17	7	66	35	98	52
BIA	25	10	15	1	12	0	52	11
TOTAL	40	20	32	8	78	35	150	63

* Source: Krauss, Alaska Native Language Center Report, Alaska Native Language Center, University of Alaska, Fairbanks, 1973.

** Source: Personal communications with Kathy Perrin, ANEB; Frank Berry, JOM; Baxter Wood, ASOSS; and cross reference of various agency directories.

It must be pointed out that the figures in Tables IV-3 and IV-4 are based on general estimates and not on an accurate linguistic census, the cost of which would be prohibitive even though the pay-off in valuable information would be great. Nevertheless, the overall proportions of children reached by bilingual education at this time are probably accurate enough to warrant the general conclusion that throughout the state, no more than one fourth of all school-age speakers of Native languages are participants in some form of bilingual education program.[1]

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[1] Plans are underway for the BIA in FY 1976 to increase approximately three fold the number of Yupik-speaking communities with bilingual education.

5. Rural Secondary Education

The case of Hootch vs. the Alaska State Operated School System is considered a landmark in the struggle to redress one of the most intense of the many longstanding grievances held by Natives and others against public education in Alaska. Suit was brought in 1972 against the Alaska State Operated School System (ASOSS) on behalf of Molly Hootch and 27 students residing in the village of Emmonak. The suit's purpose was to compel the state to provide secondary schooling to high school age village students in their home communities.

According to Kleinfeld (1973), about half of Alaska's Native high school students were enrolled away from home in boarding programs in 1972.[1] Such students are shipped each Fall often hundreds of miles to various regional resident high schools, boarding schools, and urban boarding home programs, and usually are not allowed to go home during the school year unless they pay their own way. In addition to having provoked an abnormally high suicide and homicide rate among these students since the 1966 start of the program, the yearly dropout rate has been between 15 and 30 percent.

As of the 1973-74 school year, only about 44 percent of Alaska's Native communities had local high school programs. The October 1974 decision by the State Supreme Court for the plaintiff (ASOSS) temporarily left the State without a legal mandate to improve this percentage. The court ruled since neither the Constitution nor Department of Education regulations specifically require secondary education to be provided in a student's community of residence, the State of Alaska is not required to take such action. The Constitution provides only that "the legislature shall establish and maintain a system of public schools open to all children of the state." In a dissenting opinion the Chief Justice interpreted the word "open" to have intended a right to reasonable access to high schools in rural communities. The case is now under appeal.

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[1] Kleinfeld, J., A Long Way From Home, Center for Northern Education, Institute of Social, Economic and Government Research, 1973.

The cost of bringing secondary schooling to small rural communities is enormous by any calculation. Proponents for Hootch, et. al., argued the annual price would be considerably lower than the current $12.2 million yearly cost of the present nonresidence program. The real issues, however, are not in the construction of new high schools in villages, because the State has already initiated a substantial construction schedule despite the outcome of the case. Rather, the kind of program, and its methods of delivery, are basic to the total secondary school question.

Interestingly, the relative satisfaction with the current non-local program among Natives seems not altogether low. According to the 2(c) Study, (Task III, a Survey of Natives' Views):[1]

> Contrary to expectations on the basis of some previous studies, BIA high schools outside the families' place of residence in general attain a relatively high rating of satisfaction.

And further,

> The unquantified responses show a high level of interest for high schools to be located in villages, especially in the statements of the local leaders. At the same time, some respondents in villages with high schools do worry about the quality of education being received, a concern consistent with the high value placed on education for children. (Task III, Part A, Section 2, p. 17)

In addition to the concerns Natives show over the problem, educators, particularly those in rural areas, are in a quandary over what kind of program will work in a small, isolated, expensive, cross-cultural setting. Much of the problem stems from the fact that with limited funds and facilities, the higher the grade the more rapidly exhausted are the specialized resources currently capable of being brought to bear. Three teachers, for example, may simply not possess, even collectively, all the specialized background traditionally associated with the delivery of a comprehensive high school program.

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[1] 2(c) Report: III. op cit.

Furthermore, it is generally agreed that providing some form of first-hand experience outside the village is not an undesirable component of a secondary program. How to provide locally acceptable quality at a reasonable cost, and without the socially disastrous side effects of Alaska's form of "busing" remains a problem, however. Among the undesirable effects of the current program is the loss of some of the compatibility the student has for village life during his years away from home. Simultaneously, the community "forgets" how to deal with the student as an age-type from whom one could learn.

In simple terms, the net effect of the above discussion, offers a dilemma of major proportions:

1. Non-local high school programs have unacceptable side effects;
2. Local high school programs currently have unacceptable quality;
3. Therefore, an accelerated local high school construction program may solve one problem while increasing the dimensions of the other.

Low-cost curriculum/personnel augmentation of some kind constitutes an obvious ingredient to the solution. And it is in this context that the potential educational usefulness of satellite TV delivery can be evaluated.

6. The Context of Telecommunications

This brief and by no means exhaustive compendium of events and forces was presented to the reader to describe the context in which ESCD took place. The magnitude of the social and economic change these forces result in has an intensity not to be ignored if planning for the future is to be of value. For telecommunications planning, in particular, each of the above topics demands some form of special adjustment. At least three important questions can be asked by planners to help evaluate the role of telecommunications in the context of current social forces.

First, to what extent does a social force create or increase peoples' appetites for telecommunications, and what forms of telecommunications will be demanded most because of it? In the economic sector alone, the demand for reliable data transmission, inter-site voice communications, and management training programs, to name a few, all point to increased desires for services providable by some form of telecommunications system.

Second, what role can telecommunications play in solving problems created by rapid social change? Acute problems occasioned by the increased demand for rural educational programs of high quality were noted earlier, particularly in the area of secondary education. Coupled with an increase in the need for field-based post-secondary programs, needed systems for education delivery open a growing opportunity for telecommunications to provide the necessary personnel and curriculum supplements. The trend toward increased regionalization of control over more and more aspects of rural governance and planning offers an opportunity for telecommunications to reduce further the distances between decision makers and their constituents.

Third, to what extent could a particular form of telecommunications introduce new social change processes of its own? Only the most naive of interested readers could perceive the current flow of social change without having at least passing concerns for its disruptive potential. The introduction of sophisticated technology in any form tends to bring such concerns to the fore more rapidly than other, more subtle influences. Telecommunications, by removing isolation, by forcing the pace of life in general, and by inviting people to measure their lives against new and different sets of social practices, carries a proportional burden of responsiblity. Thus, each problem solved by telecommunications, carries with it the responsibility to examine ways for the solution itself to avoid creating new forms of disruption. That is, any set of "solutions" imply a set of "opportunity costs" which must be weighed and evaluated.

7. Additional Alaskan Experiments in Rural TV

Among the telecommunications demonstrations prior to ATS-6, two are of unique importance: the Mini-TV Stations demonstration, and Project Wales. Their uniqueness lies not so much in the technology demonstrated, as in the firsthand experience with the influence of television on village behavior they afforded. In each demonstration substantial amounts of programming was made available over a significant length of time. The programming was varied, at least enough to provide some indication of viewer response to what might likely be available from future, more permanent systems.

The implications of the findings from these two demonstrations will provide some background for discussion of the village impact of the ATS-6 demonstration. These are important for future systems in which expansion in the number, variety and locality of programming most likely will occur.

a. The Mini-TV Stations

In the Mini-TV (MTV) experiment, lasting from June 1, 1973 to May 30, 1974, a pilot network in three isolated Alaskan communities (Ft. Yukon, St. Paul and Unalaska) was established by the Alaskan Educational Broadcast Commission (AEBC), through joint funds provided by AEBC, the Corporation for Public Broadcasting (CPB), and local community sources. Low power (10-watt) VHF transmitters purchased by each of the three villages were used to broadcast about 25 hours of programs each week, composed generally of "... any (PBS) program cleared for broadcast and available in the appropriate tape format ..." plus programs "... obtainable from educational and instructional sources such as Western Instructional Television or Great Plains National ITV Library."

However, not long into the project, the lack of commercial TV fare, coupled with the desire for same, led the local stations to supplement the broadcast day, first with locally produced material of community interest, and later with "independently obtained cassette recordings of commercial broadcasts."

The local broadcast day was from about four hours to eight hours of programming lasting until midnight. The tapes were dubbed by station KYUK-TV in Bethel and distributed (bicycled) by mail to circulate among the three MTV stations.

For the most part the technical aspects of the MTV demonstrations posed no operational problems other than some logistical problems associated with dubbing and bicycling of tapes. Of greater relevance to the ATS-6 demonstration is the impact of MTV on the three communities initially involved.

In an evaluation of this impact, Anthropos, Inc. (December 1974) report several important outcomes, some of which are noted here. Regarding social activities, there was a general reduction in visiting between households, and formal social activities such as school functions, club meetings, and church suffered as well. On the other hand, there was also substantial reduction in law enforcement problems related to alcohol and vandalism. The St. Paul police chief reported a 40% drop in alcohol arrests over a two year period which he "related solely to TV." In general, the MTV experience seemed to have two summary effects: "it keeps people at home," and it "regulates time."

Two areas of information gained from the MTV experiment are: 1) the local pattern of control over its operation, and 2) its effect on relationships between the school, the community and the MTV station. Regarding the MTV station's control, each village hired a station operator, responsible for receiving, playing and transporting tapes; supervising part-time station help; and carrying out the functions of which the station is a part, such as its being located in the community center in Ft. Yukon. In Ft. Yukon and St. Paul, the city manager had decision-making power over operations and programming policy with day-to-day responsibilities given to the station manager. No community advisory groups were formed in these two locations. In Unalaska the school district, not the city, was the licensee, and control was vested in the school superintendent. In the latter case a "Community Media Advisory Committee" was formed which appeared to take their responsibility for policy and operations quite seriously. Thus, two contrasting control patterns emerged of which the evaluation report noted that "of the three communities" Unalaska clearly has demonstrated the most creative approach to programming and to station operation."

The relationship among the schools, communities, and stations comprise another area of interest in the MTV experiment. Again contrasting patterns emerged in the MTV evaluation. Unalaska is an independent school district, whereas Ft. Yukon and St. Paul were under the Alaska State Operated School System. For the latter, the school boards are only advisory and long-standing alienation between school and community has characterized the relationship for many years. In drawing implications, Anthropos noted:

> Without attempting to assess the degree to which this (alienation) might be a factor in the relationships at Ft. Yukon and St. Paul, it is clear that the schools stand apart from the "community" television station. While the majority of teachers in each school were pleased to have television themselves and believed it was good for the community, no significant relationships had materialized.

In contrast, the school at Unalaska, as stated earlier, showed substantially more active interest in bringing its responsibility over the MTV stations in line with community desires. For example, a high school "media" class was started, to allow students to participate in station operation. More significantly, at Unalaska the only substantial amount of local programming was seen:

> Here (Unalaska), local programming started early and has been sustained and improved throughout the year. At the other two sites local programming is periferal.

b. Project Wales

Project Wales was a cable TV demonstration in the westernmost community in North America. Two channels, one for "educational programs" and one for "commercial entertainment," were made available on color sets donated by

ITT Arctic Services to each of Wale's 50 households, from March through August 1973.

The project was a cooperative effort in which private entrepreneurs and state agencies, coordinated by James Hendershot of APUC, donated all necessary equipment, programs, advice and installation time. One point of Project Wales seems to have been an attempt to prove that charitable intentions of private industry can deliver to remote areas a better TV product with greater variety and more cheaply that can the government.

The most unique feature of Project Wales was its ability to put ETV in competition for viewership with commercial TV. (To avoid undue suspense, entertainment won.) Other effects reported in a quasi-experimental study of the project, are an increase in some areas of verbal skills as reported by Madigan and Peterson in a Project Wales study (1974):

> Our tentative conclusion is that TV explosure increased verbal intelligence as measured by verbal associations but it did not have an effect on verbal-verbal associations nor on any measure which requires relatively unstructured verbal expression. (p. 89)

There was no measured effect on educational achievement, apparently because it was not designed into the village classroom setting.

Regarding its social impact on the community, Project Wales showed some interesting trends. For example, in contrast to the MTV experiment, Wales showed no apparent reduction in the amount of visiting between households. However, as in MTV communities, a substantial impact of TV to reduce participation in formal social gatherings was seen in Wales. Reduced participation in school board and village council meetings was particularly noted, and, as might be predicted, no regularly scheduled movies in Wales made money during the test period.

C. CONCLUSION

For the purpose of relating these demonstrations to the ATS-6 study, the major point to be drawn is that very little of this prior experience went into ATS-6 planning documents. This fact, along with the experiences of ATS-1 (discussed in another issue paper), is based on the near absence of their reference in any of the planning documents. To be sure, the timing of the studies overlapping the ATS-6 planning period, makes it understandable that related documents were not readily available for inclusion in the ATS-6 planning process. However, the state's avowed interest "in the processes involved in creating and operating a satellite communication system and in designing, producing and utilizing media materials over such a system" would suggest close attention would have been paid to projects that were on-going.

SECTION V

ESCD/ALASKA: AN EXERCISE IN INNOVATION INTRODUCTION

In the section titled "User Reaction to ESCD/Alaska and Implications for the Future," little attention was paid to the processes and events which caused those reactions. Focus was on the effects (user reaction) as opposed to the causes (planning, funding, programming, production, management, etc.).

In this section the focus will be on the causes, and ESCD/Alaska will be viewed as an exercise in innovation introduction, where the innovation is use of satellite television to solve educational problems in rural Alaska. The following information is presented in this section:

- A framework for organizing discussion of planning, funding, programming, production, management, etc.;
- Selected first draft issue papers. The issues selected for discussion are not necessarily the most important; they are those for which all documents have been collected, and which were discrete enough for treatment in time for this first annual report.
- Aides for reading the issue papers.

Except where otherwise noted, all the material presented here is derived from the "Chronology of ESCD Critical Events". (See Volume II, Section III for a description of how the chronology was put together and for the chronology itself.) Discussions not derived from the chronology but presented in this section are:

- Theories and hypotheses about Alaska Native Magazine attendance. (An example of what can be accomplished with even incomplete data is included on page V-50.)
- The "Materials Distribution" mode for using satellite television (see page V-60).

A. THE NEED FOR AN ORGANIZING FRAMEWORK

Readers of the "Chronology of ESCD Critical Events" or of the overview history included on pages V-8 through V-17 of this section will note that ESCD/Alaska's history is both long and complicated. There seem to be an infinite number of:

- events that are "critical" in one way or another;
- relations among those events;
- issues which can be discussed and analyzed on the basis of the events.

In the following paragraphs a framework for organizing the discussions that make up this section is presented. The framework chosen is a model for innovation introduction developed by Practical Concepts Incorporated and described in "Practical Concepts for Using Interactive Television: Applications in the Medical Community" (National Library of Medicine Contract N01-LM-4-47050, 1975).

B. AN INNOVATION INTRODUCTION MODEL

1. A DEFINITION OF INNOVATION

An important purpose of demonstrations such as ESCD/Alaska is to stimulate innovative solution to local problems in education and communications, which can be incorporated into long term operations.

The following dictionary definitions apply:

Innovate:	To introduce as if new; to make changes.
Innovation:	The introduction of something new; a new idea or method.

The concept of innovative as it is used here also means problem oriented adaptiveness, and it has the following characteristics:

- Innovators have alternatives open to them. Innovation is characterized by selection of the best solution to a problem among a variety of alternatives. A "true" innovation is a solution that was not previously used to solve that particular problem.
- Innovation causes change. It requires that we do different things or perform familiar tasks in unfamiliar ways.
- Innovation occurs from the bottom as well as from the top down. Innovation is not only introduction by experts to users of knowledge technology, it is also introduction by users to experts of what knowledge and technology are good for in practical terms.
- The innovation process is characterized by trial and error, and the original attempt at solution to a problem is often not the final one.

One can make a case for saying that stimulating innovative solution to local problems is the justification for:

- Education research in rural Alaska (or anywhere for that matter);
- Communications in rural Alaska;
- Demonstrations.

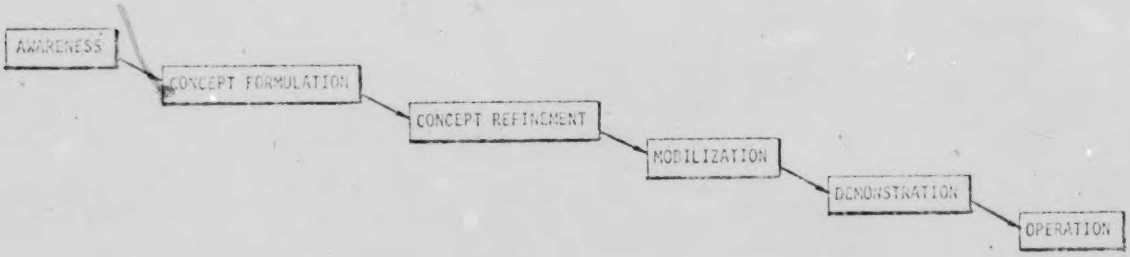
Neither education, nor communications, nor demonstrations have inherent worth. They are valuable to the extent that they stimulate innovative solution to local problems.

2. THE MODEL

The model has six stages as shown in Figure V-1.

FIGURE V-1

STAGES OF THE INNOVATION MODEL



Stages of Innovation Introduction

In the context of ESCD/Alaska, the stages of the model are defined as follows:

AWARENESS:	There is knowledge about satellite communications, and about Alaskan educational problems, but there is no concrete idea for using the satellite television technology for education in rural Alaskan villages.
CONCEPT FORMULATION:	Satellite television is thought of as a logical technology for alleviating educational problems in rural Alaska, but there is no detailed planning.
CONCEPT REFINEMENT:	This is the stage of detailed planning. Decisions are made about what problems to address, what audiences to broadcast to, what kinds of programs to broadcast, and how to produce the programs.
MOBILIZATION:	Everything that needs to be done before the plan can be acted upon takes place, such as: obtaining funds, hiring staff, putting equipment in place, choosing Consumer Committee members and Utilization Aides, etc.
DEMONSTRATION:	Technology and programming is introduced by "experts" to the users in rural Alaskan villages, and the users tell the experts what the technology is good for in practical terms.
OPERATIONS:	Aspects of the demonstration which users deem successful are put into operation on long-term basis.

C. CLASSIFICATION OF ISSUE PAPERS ACCORDING TO THE INNOVATION MODEL

The selected issue papers are presented and organized by innovation stage. The issues, organized by innovation stage, are:

AWARENESS:
- Non-Participant Knowledge about ESCD in Alaska*

CONCEPT FORMULATION:
- The Relationship of the ATS-1 and ATS-6 Demonstrations*

CONCEPT REFINEMENT:
- Reactions in Alaska to Site Visits by NIE Teams
- Conflicting Goals and Objectives of Participants*
- The Relationship between Individual Career Histories and ATS-6 Planning*

MOBILIZATION:
- Site Selection

DEMONSTRATION:
- Separation of Production and Design
- Internal Evaluation
- Theories and Hypotheses about Alaska Native Magazine Attendance: An Example of Analysis that can be Accomplished with Incomplete Attendance Records
- Management Problems*
- Interaction*
- The Role of Consumer Committees*
- Separation of ATS-6 Health and Education Demonstrations*

OPERATIONS:
- The "Materials Distribution" Mode for Using Satellite Television
- ESCD/Alaska Effect on Future Planning*
- The Public Service Satellite Consortium*
- Future of the ESCD/Alaska Ground Installations*
- The Effect of Demonstrations on Participating Organizations*

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[*] Included along with the selected issue papers are brief descriptions of other potential topics. They serve as an indication of additional areas which might be further studied during the second year.

D. FOUR CAUTIONARY NOTES

The following cautionary notes should be considered while reading the issue papers.

1. The issue papers are incomplete.

The selected issue papers are presented in this First Annual Report as discussion drafts to show how a critical events chronology can lead to analysis of important problems. The issues selected for discussion are not necessarily the most important; they are those for which all documents had been collected, and which were discrete enough for treatment in time for the First Annual Report. Many of the more difficult, and perhaps more important issues, have been left for the second year of this study.

2. An Alaskan bias.

Although a sizeable number of documents have been gathered which originated in Washington, D. C., most of the interviews, chronology work and issues analyses have taken place in Alaska. Therefore it is certain that the following discussions have an "Alaskan" bias, since the Washington, D.C. (NIE, HEW, etc.) viewpoint is not represented.

3. Quotations.

Readers are also urged to make notes of the following caution regarding quotations: recorded interviews were intended to supplement documentary evidence from the chronology. In many cases they provided valuable insight into the significance of critical events. Care has been taken to use quotes in context, but word-for-word accuracy is dependent upon the quality of the transcription.

4. Relationship to documentation.

Where possible, references to chronology numbers show the relationship between facts, and the documents and interviews on which they are based. However, for documents and interviews not included in the chronology, references are by date or by file number.

E. AIDES TO READING THE ISSUE PAPERS

The following are included as supplementary material for the reader which clarify portions of the issue papers. These aides are:

- An Overview History of ESCD/Alaska;
- A List of Abbreviations;
- A Partial List of Alaska ATS-6 Demonstration Staff, and Other Alaskans Involved.

1. Overview of ATS-6 Education Demonstration

Alaska's interest in the communications satellite as a means to solving one of the state's oldest problems is perhaps as old as the developmental history of such satellites. Alaska's need for long distance communication includes both intrastate and interstate service. The distances and terrain to be covered require the "super technology" which communications satellites promised to become. Satellites using large earth stations elsewhere have served large populations by spanning oceans. Alaska's small populations, separated from each other and the rest of the world by similar geographic barriers need the economies of scale of small earth stations.

The history traced by Alaska's ATS-6 education project chronology has identified numerous interwoven threads of satellite development in the state. It shows parallels and inter-relationships among factors either ignored or simply not perceived by the principals. However, placing the ATS-6 education experience within the total picture of Alaska's satellite development would require even the most involved party to account also for efforts to obtain reliable telephone service and medical communications as well as education efforts other than ATS-6.[1]

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[1] Examples of development not covered by this chronology include: the military's role in providing service to itself and to civilians through the White Alice System and ACS, the history of the Alaska Division of Communications, Comsat's construction of the Talkeetna earth station, the formation of RCA Alascom and its purchase of ACS with subsequent effort to establish a state system, the development of ATS-1 and ATS-6 medical projects, the Comsat 16-foot dish demonstration, the Point Reyes experiment, the State's purchase of 15-foot dishes, CTS, and PSSC. (Abbreviations used throughout are listed separately -- see page V-18.)

Alaska's interest in the particular strain of satellites known as NASA Applications Technology Satellites is traced by the chronology back to 1968, when Alaska's U.S. Senator E. L. "Bob" Bartlett questioned NASA about arrangements to provide a satellite for India:

> ... without first at least considering what it can do to solve various serious communication problems of one of our own states (C2)[1].

Those NASA/India plans were for ATS-F,[2] a satellite not yet launched, and NASA replied to Bartlett that it would be receptive to ideas for the development of ATS experiments which might be to Alaska's benefit. Senator Bartlett's response urged consideration of the

> ... possibility of testing direct broadcast from a satellite to community facilities or individual homes in Alaska ... the broadcast of educational television programs directly to community facilities in Alaska rural areas presents a unique opportunity to test both technology and applicability (C3).

The Senator's reply also referred NASA to a number of individuals later to play significant roles in the Alaska ATS-6 Education Project Chronology, including A. G. Hiebert and Charles Northrip.

NASA's eventual announcement that ATS-1 and ATS-3 were finished with their scheduled experimentation, that they were still operational, and that they might be available to other experimenters presented the possibility of Alaskan participation in satellite communications much sooner than any developments on ATS-F or later satellites in the series.

The cause of communications satellites in Alaska was advanced by Alaska's Congressional Delegation as well as by the Governor and individuals within the State. Throughout 1968-69, the Governor's Satellite Communications Task Force (C4) concerned itself with including Alaska in a U.S. domestic satellite system; the University of Alaska sought funding for "a pilot study of educational broadcasting in Alaska via Communications Satellite" (November 1968 proposal, 108.3); Senator Mike Gravel proposed an ATS-1 TV pilot program (C5) utilizing Comsat earth stations; and the "Alaska Conference on Satellite Telecommunications" was convened by Senator Ted Stevens (C10).

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[1] References in this section are given either as chronology numbers (e.g., C2), document file numbers (e.g., 108.3) or as interviews (e.g., name, date).

[2] An ATS is designated by letter throughout the research and development phases; it acquires a number once it is successfully launched.

In the fall of 1969 two Alaskans, Buck (Div. Comm.) and Northrip (AEBC), with the aid of Comsat representatives, wrote the state's proposal to NASA for the use of ATS-1 for TV and audio (C11, C15). According to Northrip, the application called for both C-band and VHF experiments. The C-Band was TV to Fort Yukon, Kodiak and Fairbanks. "The VHF was audio only. We wrote it broadly enough that everything that we're doing through this day could find its roots in the VHF portion of that application." (Northrip, 5/8/75) NASA approval of the application indicated reservations about the quality of the TV signal obtainable (C20), and it was decided that the cost to the state would be too high to justify such a short-term experiment (C19, C28). By early 1970, proposals were being made (C21, C22) from outside Alaska for an ATS-G experiment that would permit satellite television broadcasts to small, low-cost earth stations. ATS-1 was used for a one-time radio transmission from KUAC to a few sites in the lower 48 in April 1970 (C23). By November, the UA Geophysical Institute had been conducting ATS-1 technical experiments with the Alaska Division of Communications for several months (C31). NASA indicated in May 1970 (C24) that an Alaskan "User Experiment" would be considered for ATS-G scheduled for launch in early 1975. In the fall of 1970, USOE official Hal Lyon visited Alaska as a preliminary to issuing an RFP for a two-phase joint NASA-HEW study (C32). By January 1971, a U.S. Senate-House Conference Committee had added $500,000 to the budget of the Lister Hill National Center for Biomedical Communications (C33). Alaskans learned that the money was for some kind of Alaska satellite experiment (Northrip, 5/8/75; Stanley, 7/24/75). In March, the UA Geophysical Institute (GI) and the UA Department of Electrical Engineering conducted a "Preliminary Evaluation of Reliable Voice Communication for Remote Alaskan Village Medical Traffic" using ATS-1 to communicate with Allakaket and Venetie (108.3). In May, the GI secured a contract with Lister Hill Center for $421,000 through December 10, 1972, to establish and operate the ATS-1 biomedical communications project (108.3). Also in May 1971, the earlier efforts of

USOE to establish a two phase joint NASA/USOE study apparently resulted in the ASOSS/ATS-1 education project, the formation of the Educational Telecommunications Consortium (ETC) and the Teleconsult contract (Phase I of joint USOE/NASA study) entitled, "A Study of the Potential of Telecommunications and Educational Technology to Satisfy the Educational Telecommunications Needs of the State of Alaska," published in May 1972.

A June 14, 1971 joint press release by HEW, CPB, and NASA announced an agreement to use ATS-F from September 1973 to May 1974 beginning with "transmission of educational and health programming to a number of ground receivers distributed in the Rocky Mountain region and Alaska" (C43, C46).

On July 22, Alaska's Governor Egan sent NASA a letter expressing the state's willingness to participate in the 2500 MHz (S-band) experiment on ATS-F (C51), having already designated Bob Arnold (AEBC) responsible for final Alaska satellite time schedules (C42, C44) in response to the specifics of the ATS-1 education and medical projects. Subsequently the state attorney general noted in asking for an Alaska ATS-F plan deadline extension that a special AEBC committee would work on the application (C55) and the Governor designated Arnold as Alaska's representative "for purposes of experimental design and programming." (C56)

Through January 1973 (C132) Arnold was responsible for the development of Alaska's ATS-F education project plan. Based on proposals, reports of verbal presentations, and meeting minutes up to that point, the conclusion is inescapable that those involved expected the ASOSS/ATS-1 education project, the ETC, and the Teleconsult study to contribute to Alaska's ATS-F and/or G planning efforts (C5, C29, C32, C40, C41, C48, C55, C66). However, Arnold necessarily expanded his initial efforts by finding money to pay for ATS-F planning rather than doing the planning itself (C58, C63). Other than the emerging ATS-1 project (and funding to support it), the willingness of Al Horley (HEW/OTP) to fund Northrip as a consultant to ATS-F planning (C59), appears to have been the only direct planning money available. Much of the anticipated funding for

FY '71 and '72 never materialized and what did arrived piecemeal, with pre-determined expenditures or conditions attached. From the Alaskan perspective what never arrived was Phase II funding of the joint USOE/NASA study. Instead, Arnold eventually acquired some money from Horley but not until April or May 1972 (C82, C89).

The "NASA/HEW/CPB ATS-F Tele-Education/Medicine Experiment Working-Planning Meeting" of July 5-6, 1972 in Washington, D. C. included Arnold, Northrip, and Joe Princiotta (consultant and puppet-maker) with a list of five possible programs (C92) and a roll of butcher paper.

> ... we'd been treated to all these charts and things like that by the Rocky Mountains the first day. So Joe (Princiotta) went out and got a large roll of butcher paper, and we started with a single circle, and then it branched up to about three other circles ... and after the first three circles there wasn't anything. A little comic relief. We felt the meeting needed that. (Northrip, 5/7/75)

Concurrently, with Arnold's effort to develop the Alaska ATS-F education plan, Glenn Stanley (GI, ATS-1 medical) worked on a University of Washington medical school contract to develop ATS-F medical plans (C64, 108.3). The September 22, 1972 AEBC ATS-F/Alaska program plan (C101) included medical components, but later Arnold notified Horley that the health plan was being coordinated elsewhere (C105, C106). Arnold's final program plan was dated December 1972 (C118) and was expected to be reviewed by NCET before the end of the month (C119).

In early January, 1973, NCET expressed concern that several people appeared to be representing Alaska (C126), and a letter from NCET to Region X (C128) requested that contact be made with Marshall Lind (Commissioner, DOE) and Gov. Egan to determine who represented the State. DOE prepared its own proposal (C131, C134) and sent a representative to Washington to attend a HET Working Group Coordination Meeting scheduled for February 5 (C135). Arnold also attended the meeting prepared to discuss the December plan he had submitted, having written a January 24th letter (C132) notifying NASA and HEW that the ATS-6 project was being transferred to OT, headed by Buck, and that Arnold expected to continue working on the plan part-time. In mid-February, NCET wrote to Arnold confirming their earlier discussion that they expected a proposal from OT with the concurrence of DOE (C139). Buck hired Northrip as OT's Satellite Experiment Coordinator (C142A) and the OT proposal (prepared by Northrip with the assistance of Marilou Madden [DOE] and Walt Featherly) was submitted as a revision to the December plan (C144, C151).

In Spring of 1973 an S-band frequency conflict with Department of Defense operations was revealed and led to the exploration of alternative ways to provide audio interaction for the HET experiments. (In Alaska, ATS-1 eventually provided audio interaction.)

In May, OT received $50,000 from NCET (in addition to then unexpended Horley/AEBC planning funds (C165), and submitted an $871,000 FY '74 proposal, of which $775,000 was requested from NCET (C166). Although the project was being transferred to NIE (C171), by late May OT had been told that if HEW went on continuing resolution, FY '74 money would be available almost immediately. In addition, OT expected funding from CPB and an Installation and Maintenance contract from Horley (C171).

No such funds were forthcoming and a July 26 letter from Grayson (NIE) confirmed that OT would get a no-cost extension of current money and that a new, stand-alone proposal should be submitted to NIE (C190). In August 1973, the OT plan was sent to NIE (C192, C198), and in October an NIE site visit to Alaska (October 29 - November 1) was scheduled (C210).

In November NIE and OT finally reached an agreement which resulted in the December 20th contract (C217, C219, C232A). OT had been seeking subcontractors for design and program production and contracted immediately with NWREL (C230) for design and eventually with KUAC at the UA, Fairbanks, for production (C264A).

In March, OT submitted milestone reports (C264) due NIE as well as a program plan (C259). NIE made a second site visit (April 29 - May 2) (C276), which resulted in recommending cutting of Early Childhood Education (ECE) (C284), one of the three in-school series planned by OT. In mid-June 1974

OT met with NIE and learned that Basic Oral Language Development (BOLD) and ECE were both to be dropped. NIE agreed to a program review of the two series with an August 30 deadline for a final decision (C294). Meanwhile NWREL, OT and KUAC continued working toward the September broadcast dates. On August 23, NIE called OT with the decision to continue BOLD but suspend ECE (C377). On September 3, another phone call to OT informed them that BOLD would have to be suspended after all (C387, C399). OT inquired whether there was any objection to seeking BOLD funding elsewhere and eventually an NIE/OT contract modification (mid-February, 1975) did provide NIE funding for the BOLD series (C428, C563).

The Alaska ATS-6 Education Demonstration eventually was to include three types of programs: instructional, viewer-defined (public broadcasting), and Experiments of Opportunity (OT brochure, 4.5) during the eight month broadcast period (October 1974 - May 1975).

The instructional programs were: Right On! (HE), Amy and the Astros (BOLD), and Tell and Show (TIST), a teacher in-service program. HE consisted of 64 broadcasts, two per week. On Mondays, the odd numbered Right On! programs videotaped by KUAC were broadcast, followed by live interaction with the Juneau studio. On Fridays, a "canned" health education program was broadcast, again followed by interaction from Juneau. The 32 BOLD programs videotaped by KUAC each aired twice in the week, with live interaction from Juneau each time.[1] Alaska Native Magazine (ANM) was the weekly viewer-defined program, a category which also included specials such as President Nixon's resignation; the inauguration of President Ford; Governor Hammond's inauguration budget, and State of the State addresses; plus PBS Christmas specials (C512, C531). (Proposed PBS/NPR interconnect was never accomplished for a variety of funding and technical reasons.)

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[1] Tell and Show (the responsibility of DOE) and Politalk were totally produced in Juneau and also included live interaction.

The Experiments of Opportunity, not funded as part of OT's HET experiment, included an Alaska State Library series, Community Librarian Training (broadcasts which supplemented a correspondence course and workshops funded by Higher Education Act, Title II-B), films by the Alaska Department of Fish and Game, and Politalk, a legislative report from Juneau by the Alaska Department of Regional and Community Affairs.

The taped portions of HE and BOLD were designed by NWREL and each had a Consumer Committee of residents from project sites who met to approve the designs prior to scripting or production. ANM also had a Consumer Committee but it consisted solely of representatives from Regional Native Corporations. The program was completely produced by KUAC with taped or film segments included as part of the 60-minute show originating in Fairbanks. In addition to organizing the Consumer Committees, OT hired a Utilization Aide in each rural site to be responsible for technical operation and in the case of the Tuesday evening ANM, to be sure the school was open and to encourage interaction (C337, C388, C458).

Most of September - December 1974 was devoted to creating and producing ATS-6 programming. An OT proposal to CPB (which was already funding part of ANM) to produce an ECE pilot, and to edit ANM into half-hour non-dated programs for tape distribution, was approved in January (C417). In April, KUAC described a two-month work plan for these purposes. The $71,000 cost was covered by unexpended funds plus the CPB money (C671). OT sent NWREL and KUAC contract modifications to reflect agreements previously made (except for additional BOLD funding) (C450).

The BOLD scripts received much criticism from KUAC and resulted in a number of NWREL/OT/KUAC memos, phone calls, and meetings, especially in November and December. A January 7th meeting, just prior to the closing of the NWREL Anchorage office, settled on a strategy for completing production of the scripts (C490, C524). Proposals (C527, C533, C553) were developed to continue production of Right On! (KUAC) and Alaska Native Magazine (OT). In late February KUAC changed some aspects of their approach to ANM (C577) based on field interviews and comments by Consumer Committee members. The December ANM meeting included a session closed to

KUAC (C568), and the February meeting had been cancelled after the tape viewing (C568). OT invited four Utilization Aides to the final ANM Consumer Committee meeting in March (C591) who provided information from the viewpoint of site residents.

A FY '76 NIE continuation proposal was submitted in March by OT and DOE for $800,000, to build on the processes of ATS-6, but without continuing any of the ANM, BOLD or HE program production (C579, C600). In providing KUAC with a copy, OT noted that KUAC was free to seek funding to continue production of the three series and that contracts were being explored for ANM and HE by Barril and Bruggeman (C596, C618). NWREL's contract was extended in March (C582, C589) "... for the remainder of the production time for the Right On! health series and such other consultation, planning and administrative coordination activities as requested from time to time..."

Alaska's interest in further experiments utilizing the ATS-6 in FY '77 was expressed to NASA in a letter from Gov. Hammond on April 16, 1975 (C615) and one from Northrip on July 8 (C647).

On May 13th, 1975, ANM was the last Alaska ATS-6 education broadcast. At the end of the month OT and CNER had a "debriefing" conference in Anchorage for teachers, Utilization Aides and Consumer Committee members (C652).

NIE invited a proposal for ATS-6 "third year" activities in July. OT's final draft of its final report to NIE (due September 30) was completed (C652).

Since the production and broadcast of HE, BOLD and ANM occupied the bulk of OT's HET funding and activity, the chronology reflects this as the primary activity. Other events involving OT ATS-6 staff are mentioned, including CTS, but the search for documentation came across these items only incidentally. The other thrust of OT -- the negotiations with RCA, and legislative decision to purchase small earth stations -- involved Marv Weatherly as the new OT director while maintaining his AEBC position. Such entries are generated from "satellite" stories which appeared in Alaskan newspapers.

OT also had an Installation and Maintenance contract which came from Horley (HEW), and which was partially subcontracted to KUAC and others. That effort and the actual coordinating role of OT with the two other ATS-6 projects that operated in Alaska (AANHS, WAMI) should not be overlooked by anyone who attempts to describe fully the ATS-6 activities of OT.

2. List of Abbreviations

AANHS - Alaska Area Native Health Service, IHS, PHS

AEBC - Alaska Educational Broadcasting Commission

AFN - Alaska Federation of Natives

AIAA - American Institute of Aeronautics and Astronautics

AID - Agency for International Development

AK - Alaska

ALED - Alaska ATS-6 Education Demonstration

ANM - *Alaska Native Magazine*

APUC or PUC - Alaska Public Utilities Commission

ARC - Appalachian Regional Commission

ASL - Alaska State Library

ASOSS - Alaska State Operated School System

ASOSS/ATS-1 - Action-Study Satellite Project (ATS-1 education)

ATS - Applications Technology Satellite

ATSOCC - Applications Technology Satellite Operations Control Center at Goddard Space Flight Center

BIA - Bureau of Indian Affairs

BOLD - Basic Oral Language Development (*Amy and the Astros*)

BLET - Bureau of Libraries and Educational Technology (USOE)

CAI - Computer-Assisted Instruction

CATV - Community Antenna (Cable) Television

CC - Consumer Committee

CNER - Center for Northern Educational Research, UA, Fairbanks

Comsat - Communications Satellite Corporation

CRA - AK Department of Community and Regional Affairs

CLT - *Community Librarian Training* (ASL)

CPB - Corporation for Public Broadcasting

CTS - Communications Technology Satellite

DemoHET - Demonstration program on HET experiments

DOD - U.S. Department of Defense

DOE - Alaska State Department of Education

ECE - Early Childhood Education

EPRC - Syracuse University Educational Policy Research Center

ETC - Educational Telecommunications Consortium (ASOSS/ATS-1)

ETD - Educational Technology Demonstration

ETV - Educational Television

FCC - Federal Communications Commission

FFC - Federal Field Committee for Development Planning in Alaska

FRMS - Federation of Rocky Mountain States

GAO - U.S. Government Accounting Office

GI - Geophysical Institute, University of Alaska, Fairbanks

GSFC - Goddard Space Flight Center (NASA)

GOT or OT - Office of Telecommunications, Office of the Governor, State of Alaska

H&SS - Alaska State Department of Health and Social Services

HE - Health Education (Right On!)

HET - Health/Education Telecommunications experiment

HEW or DHEW - U.S. Department of Health, Education, and Welfare

HEW/OTP - Office of Telecommunications Policy, Office of the Secretary, HEW

H.I.S. or HIS - Health Information System

IHS - Indian Health Service (Public Health Service)

Intelsat - International Telecommunications Satellite Consortium

IRAC - Inter-agency Radio Advisory Council

ISEGR - Institute for Social, Economic and Governmental Research UA

ITV - Instructional Television

JCET - Joint Council on Educational Telecommunications

KUAC - Unit of University of Alaska, Fairbanks, includes FM and TV station; formerly Division Media Service

Lister Hill - Lister Hill National Center for Biomedical Communications, National Library of Medicine (NIH)

MDTA - Manpower Development Training Act

MH_z - Megahertz (megacycles/second)

Mini-TV - low power, broadcast television

NAEB - National Association of Educational Broadcasters

NASA - National Aeronautics and Space Administation

NCC - Network Control Center, FRMS, Denver

NCET - National Center for Educational Technology (USOE)

NEA - National Education Association

NEA/Alaska - Alaska Education Association

NIE - National Institute of Education (HEW)

NIH - National Institute of Health (HEW)

NPR - National Public Radio

NWREL - Northwest Regional Educational Laboratory

OE or USOE - United States Office of Education (HEW)

OMB - Office of Management and Budget (Executive Office of the U.S. President)

OT or GOT - Office of Telecommunications, Office of the Governor, State of Alaska

OTP - Office of Telecommunications Policy (Executive Office of the U.S. President)

PBS - Public Broadcasting Service

PCI - Practical Concepts, Incorporated

PHS - U.S. Public Health Service

PSSC - Public Service Satellite Consortium

PUC or APUC - Alaska Public Utilities Commission

Region X - U.S. Office of Education, HEW

RFP - Request for Proposal

TAC - Telecommunications Advisory Committee (AEBC)

TAG - Telecommunications Advisory Group (OT)

TCC - Tanana Chiefs Conference

TIST - Teacher In Service Trainings (Tell and Show)

U.A. - Utilization Aide

UA - University of Alaska

UNESCO - United Nations Educational, Social, and Cultural Organization

USOE or OE - United States Office of Education (HEW)

VA - Veterans' Administration (Appalachia)

VHF - Very High Frequency

WAMI - Washington-Alaska-Montana-Idaho Regional Medical School

WARC - World Administrative Radio Conference of the International Telecommunications Union

PARTIAL LIST OF ALASKA ATS-6 EDUCATION DEMONSTRATION STAFF AND OTHER ALASKANS INVOLVED*

OFFICE OF TELECOMMUNICATIONS

Office of the Governor, State of Alaska (OT)

Barril, Catalino - Utilization Manager

Buck, Charles L. - Director of OT through 12/4/74 (Director of Division of Communications, Alaska Department of Public Works)

Carroll, Joan - HE Interactive Teacher

Charlie, Melvin - First Utilization Manager, 11/73 - 3/74 (ASOSS/ATS-1 Project Director)

Halterman, Cynthia - Technical Director; also worked for DOE and ASL on ATS-6 programs

Hammock, Dave - Program Assistant

Hilscher, Hiliary - Deputy Director, OT

Lawner, Klara - BOLD Interactive Teacher

McIntire, Ted - Technical Manager

Northrip, Charles M. - Satellite Experiment Coordinator (AEBC Executive Director; General Manager of KUAC(FM)-TV)

Packer, LuAnne - Accountant

Shaginaw, George - Installation and Maintenance Supervisor

Solomon, Ron - Second Utilization Manager, May-June 1974 (Consumer Committee member)

Taylor, Rex - Education Experiment Manager

Weatherly, Marvin - Director of OT, 12/74 - 8/75; concurrently Executive Director of AEBC

Wilke, Jennifer - Final Report Consultant

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*(Parentheses Indicate Prior Position)

KUAC, University of Alaska, Fairbanks

Badger, Mark - ANM Cinematographer
Butler, Jackie - First ANM Producer
Butters, Tom - puppeteer, "Zeon"
Conyer, Dave - HE Producer-Director
Cowan, Bob - BOLD Producer-Director
Dimmick, Sherry - ATS-1 Radio Operator
Dowling, Richard - Chief Engineer through 12/74 (Consultant to OT on technical aspects of proposal)
Ensign, Walter - Set Designer/Consultant
Espe, Mark - ATS-6 Maintenance Technician
Hartman, Paul - KUAC ATS-6 Production Project Manager
Hotchkiss, Jim - Puppeteer, "Rex Moose"
Hove, Hank - Chief Engineer
Kahn, Richard - ANM Cinematographer
Lentsch, Kris - ANM Writer/Reporter
McCammon, Molly - ANM Writer/Reporter
Perkins, Maci - "Amy"
Princiotta, Josef - Puppet Designer and Creator/Consultant
Rinaldo, Pinky - Puppeteer, "Tora"
Sikoryak, Kim - Puppeteer, "Rod-Dod" and "Charlie Beaver"
Smith, Steve - Production Assistant
Smoyer, Nancy - Secretary
Szmyd, Doris - "Millie"
Tisdel, Myron - KUAC-TV Head of Production
Upham, Don - KUAC(FM)-TV General Manager
Van Veenen, Nancy - Graphic Artist
Wassilie, Moses - ANM Producer/Host (ANM Reporter/Host)

NORTHWEST REGIONAL EDUCATIONAL LABORATORY (NWREL)

Bruggeman, Holly - HE Design Director

Bryan, Doug - Director of Anchorage office through 6/74

Currington, Rowena - BOLD Scriptwriter

Featherly, Bernadine - BOLD Design Consultant through 6/74; then BOLD Design Director

Featherly, Walter - BOLD and ECE Design Director through 7/74

Garrison, Bethine - HE Scriptwriter

Hamilton, Norman - NWREL Director of Curriculum Development, on location one-third time at Anchorage office after 7/74

Lane, Eileen - HE Scriptwriter

Northrip, Glenna - BOLD Scriptwriter

Parr, Karen - BOLD Scriptwriter

Talbert, Larry - BOLD and HE Scriptwriter

Walters, Evy - BOLD Scriptwriter

OTHERS

Arnold, Robert D. - AEBC (FFC)

Furer, Sheila - ASL, (CLT programs on ATS-6)

Hiebert, A.G. - Northern TV, Inc. (AEBC, TAC, Satellite Task Force)

Lind, Marshall - Commissioner of DOE (AEBC)

Madden, Marilou - DOE

Parker, Walt - AK Commissioner of Highways, Chairman of Governor's Telecommunications Working Group (AEBC Consultant, ATS-1 Education Project Evaluator, ISEGR, FFC)

Polley, Ernie - DOE

Stanley, Glenn - Consultant to Legislative Telecommunications subcommittee (GI, ATS-1 medical, TAC, OT and AEBC Consultant)

Stevens, Martha - DOE

Merritt, Robert - Consultant to Legislative Telecommunications Subcommittee (UA Department of Electrical Engineering, GI, ATS-1 medical, TAC, Consultant to OT and AEBC)

Walp, Robert - Director of OT (Hughes Aircraft Company, Consultant to AEBC and OT)

Wilson, Dr. Martha - AANHS (ATS-6 medical)

F. SELECTED ISSUE PAPERS AND DESCRIPTIONS OF TOPICS FOR FUTURE STUDY

The issue papers and descriptions of potential topics for future study are presented in sequential order according to the stages of the innovation model.

INNOVATION STAGE: AWARENESS

Non-Participant Knowledge about ESCD in Alaska

Public attention, its support or rejection of ATS-6 efforts and the potential for public involvement in the future role of GOT seem to have been minimal. The lack of general public knowledge of ATS-6 appears related to several factors, including a hesitancy on the part of administrators to raise expectations without a certainty of project implementation.

INNOVATION STAGE: CONCEPT FORMULATION

The Relationship Between the ATS-1 and ATS-6 Education Demonstrations

At both the federal and state levels there was documented expectation that the Alaska State Operated Schools project with ATS-1 would lead to planning for ATS-6 (ESCD). Parallels between ATS-1 and ESCD/Alaska which might be traced include experience with live interaction; Native involvement in planning and operations; and site selection.

INNOVATION STAGE: CONCEPT REFINEMENT

REACTIONS IN ALASKA TO SITE VISITS BY NIE TEAMS

During October, 1973 (C214), and April-May, 1974 (C276), NIE made two site visits to Alaska. Both produced severe negative reactions on the part of the Alaska ATS-6 demonstration staff and the second visit resulted in a program review process which led to the cancellation of plans to produce an early childhood series (C369). Criticisms, stated in documents and interviews, can generally be grouped in three areas: (1) the composition of the site visit teams; (2) the process of the visits; and (3) the products of the visits. As an overall observation, it appears that the composition of the teams and process of conducting the reviews so offended the Alaskans involved in the project that regardless of the quality of the report, it was generally ignored or reacted to defensively.

COMPOSITION OF THE REVIEW TEAMS

Other than the NIE project monitor and contracts officer, the site visit teams consisted of non-NIE staff. The team did not contain any of the people responsible for the planning for the ATS-F project before the shift of responsibility to NIE, which took place only a few months before the first visit (other than the project officer who had been on the NCET staff). It would appear from statements made in reaction to the visit that teams' members were also lacking in any Alaskan experience.

Doubts were expressed by those interviewed in Alaska about the teams' competency to judge the requirements of the people of Alaska; about their competency to judge curriculum; and about the professionalism they exhibited while in Alaska.

One director of a state office expressed his feelings that he considered both visits to be "junkets." A project employee noted: "They gave all the appearances of having been selected in a strange fashion, almost because they happened to be available on a particular week rather than because of any special competency."

A major spokesman for telecommunications in Alaska criticizes NIE for lack of monitoring: "They send these teams from Washington to Alaska to sit down and discuss problems -- to look at what progress we're making -- and they are not tuned into Alaska. They don't understand Alaska; they don't understand the bush."

A subcontractor noted, concerning the team composition: "I think an engineer and a producer and an experimental psychologist was a bad team to review this program ... I would have thought they would have had a person who was a specialist in elementary education ... They should have had at least two members who were respected (in Alaska), one of them at least an Alaskan Native."

If there were justification for putting this type of team together, it appears not to have been specified nor understood by those whose activities they were to review. Concern was expressed by Alaskan officials after the first visit that the role of the site team had not been defined. Although an internal NIE memo (C216) noted the first site team members were chosen carefully on the basis of their expertise, and that they did not make decisions but served as only one source of input, the site reviews were issued with no such caution and action appeared to be taken on the basis of the reports. However, the Director of OT, in a letter (C426) to an Alaskan newspaper editor who attempted to use information from the site visit report in what might be called a political fashion, noted that having prepared a response to the site visit report, he was told by NIE upon submission that the review did not represent NIE opinion. If the composition of the team was such that a report of its findings, compiled and issued by NIE, did not represent NIE opinion, why was it so constituted and what was the validity of its findings as a basis for requiring project modification?

PROCESS OF CONDUCTING THE SITE VISITS

In the late spring of 1973, OT reported being told by NCET that they were about to receive funding of their program plan (C171). Upon transfer of project responsibility to NIE, approval was delayed and a new proposal required (C190). The first site visit in October was, according to Grayson (C210), related to this proposal. As a DOE education specialist noted (C212) in a memo to the Commissioner of Education concerning the first visit: "The purpose of the review is typical -- to see what we are doing without funds so they can decide whether or not to give us money to continue." At this time, even previous to the first visit, there was speculation among project staff that NIE was 'out to get' the early childhood component, possibly based on the fact that schedule time had been removed.

Regarding the process of the site review, the conduct of the teams while in Alaska, and how they were perceived, the comments from various Alaska ATS-6 staff need little editorializing. (The reactions to the first and second visits were so similar, it was hard to separate them and no special attempt to do so is made below.)

A Department of Education specialist noted that by fall of 1973: "... we were finally getting our act together -- I know I was kind of looking forward to that site visit ... We had set up a meeting with this group -- a wierd cast of characters ... They all marched into his (Commissioner's) office and Grayson sat down at the table and began the inquisition ... The second review I did not invite them to the department ... met them out at the airport ... a new cast of characters ... they reserved their ultimate ire for the content of the programming itself ... spent about an hour and a half hearing about the inappropriateness of the early childhood education (programming) to the Alaskan scene, which was kind of extraordinary because the person who was vitriolic about it had arrived in Alaska the night before ... It was just total inability to listen to anything we were saying and then they got on the plane and went off somewhere."

A DOE planner said: "They brought all their consultants ... they just started really coming on strong. They were very abrasive, very aggressive ... I told them we knew they were unhappy about getting this thing (project) dumped on them. And if they felt just because they were unhappy or underfunded ... that they were going to come up here now and start screwing with this project .. It was inconceivable that with a project that was so difficult already that they would consider being a hindrance ..."

The Commissioner of Education noted: "I hadn't received information regarding their visit or what the specific purpose was ... I wasn't really sure what they were looking for ... they were hitting me with a lot of very specific questions regarding the whole project and there was no way in hell I would know all of these things. I was not that involved -- I don't know if they just thought that everything else in education would cease and we'd focus all our energies in looking after the satellite program ..."

A subcontractor related his perception of the visit as he had learned of it from others: "One does not approach Alaska with the same kind of approach you would use if you were coming to visit Portland Public Schools. Alaska is more complex than any place I can think of in this country ... They showed a lack of sensitivity, at least according to some of the people, saying 'that after all what are you going to do with these little savages' -- things of that kind. That was said in one of the meetings and the Alaska Native representative took great exception to that."

The Director of OT noted his concern: "I would say that perhaps one of the things that perturbed me most was the attitude on the part of the visitors to view with skepticism anything we attempted to tell them or show them, and to get off by themselves and make their own conclusions ... There was an ill-concealed feeling of doubt about our capabilities, almost to the extent of being contempt for the people on the scene who were planning the program ... There were comments made, in fact, questions raised as to the capability of the Governor to make decisions with regard to telecommunications. Well, needless to say, that made me unhappy because I thought the Governor was perfectly qualified to make decisions with regard to the State and people of Alaska ..."

OT staff reported: "That fall was when the NIE site visit came along ... We had to exert and redirect a lot of our energies to work which would have been put into a lot more preparation with the sites ... It usually took a better part of a week and both times it was right at a time when we were really pressed ..." "I don't like the impact it (site visits) makes on the villages ... I felt they really questioned them a lot more directly and aggressively than I would have like to see happen ..." "I felt they just didn't have enough feeling for the State to make really valid (judgments) -- I thought they were judging us on standards that they were bringing from somewhere else ... which really were not appropriate here as a rule." "The first site visit they stressed community involvement so much ... when they came back there seemed to be very little concern and interest ... then they also turned and slapped down what the community involvement had created ..."

THE PRODUCTS OF THE VISITS

Two reports of the reactions and suggestions of the site review teams were compiled by NIE though not formally published nor distributed. In fact, distribution itself became a "bone of contention" and though NIE's distribution was limited, "bootleg" copies circulated within Alaska obtained from outside sources (C396). As noted earlier, quoted material from the second site visit report was even published in an Alaskan newspaper editorial (C413).

In a memo to the Commissioner of Education (C225), the first report was described by a staff member as unprofessional, inaccurate and irresponsible: "The *Composite Review* exhibits zero understanding of the proposal as written and an arrogant assumption that 'nobody knows Alaska like NIE knows Alaska.' Remarks of an extremely personal and subjective nature are quoted without attributing a source; events are reported which, according to others engaged in the review, did not happen; comments by persons in Alaska are either misconstrued or deliberately falsified."

Speaking of the reports, the same person said: "The first one (report), after the hysteria died down, we did look very seriously at some of the suggestions and try to implement them. After the second one, I don't think anybody paid any attention to anything they said or would have changed a comma, simply because of the manner in which it was delivered. The whole thing was so foolish. Now supposedly, if there was any reason for an on-site review at all, it should have been in a helping mode ... They had already invested their money, there was no way they were ever going to get the bulk of it back, so it seemed logical ... that they would try to make sure that something happened with it."

Another DOE staff member noted: "I don't think they realized the kind of repercussions it creates when they issue that kind of report." That this may be the case is supported by an internal OT memo (C245) in which a conversation at NIE is recalled, where a NIE staff member asked if the reaction to the visit was as bad as OT was indicating and he was assured it was.

Reaction from the Director of OT was in a similar vain to the above comments: "If it (the site visit) had any usefulness at all, it was to enlighten me as to the attitude of the people who made the report. But surprise -- that is an understatement -- I was shocked by it. It was a shocking report ... They engaged in personalities ..."

Often it was mentioned that the purpose of the visit was not clear, the questions asked by the team were not direct, and outcome or report was totally unexpected. It appears that there was no report of preliminary observations or findings by the team with the Alaska staff before they left the state -- a fairly common practice in monitoring visits.

It could be said that the Alaska staff should have been better prepared for the reviews but they were not given any questions to prepare for, nor for the first visit, were the program design or production personnel even under contract yet and OT was biding time on an extension. Also the timing of both visits was such that the limited staff and resources were already stretched thin.

Alaskans felt programs in early design stages were prematurely criticized and that criticism was inconsistent, especially in the suggested cancellation of ECE. It was widely discussed within the Alaska project as yet another incident of "... telling us to 'do your thing,' and then once you do it, then they say 'that's not good enough for you, we know what's best for you.'" Or as one OT staff member put it, referring to the disregard of the ECE Consumer Committee planning: "... the old saying that the great white father back in Washington knew what was good for them and what they had come up with wasn't being considered."

SUMMARY

Though these comments represent solely the Alaskan demonstration's perspective on the site visits, whether they are justified or not is not nearly as important as the fact that the obvious hostility and antagonistic attitude which existed in Alaska towards the NIE monitoring process negated any beneficial outcomes from the visits and probably other later efforts. Given, as the reports emphasized, the lateness of the project in gearing up, constructive criticism with proper follow-through was sorely needed. However, advising project staff they are late in getting going, and then delaying them even longer, was how the situation seemed to be viewed from Alaska. In summary, despite the fact that an analysis of the report finding might indicate that many of the predictions were in fact accurate, the site visits did not appear to demonstrate any capability for improving the demonstration.

INNOVATION STAGE: CONCEPT REFINEMENT

Conflicting Goals and Objectives of Participants

The goals and objectives of the ATS-6 educational experiment (or demonstration as it later came to be called) seem unclear throughout various phases and levels of the project. Its value in adding knowledge to communications technology and/or educational programming was never clearly defined. Hence, the role of various agencies (i.e. Alaska Educational Broadcasting Commission, Governor's Office of Telecommunications, Department of Education) was also unclear and could sometimes be seen as conflicting.

INNOVATION STAGE: CONCEPT REFINEMENT

The Relationship Between Individual Career Histories and ATS-6 Planning

The impact of persons in the development of ATS-F and other telecommunication matters is a topic for consideration. At this time, it appears that the career histories of select individuals may shed more light on ATS-F planning than the descriptions of the agencies involved. This may, in turn, be related to a lack of institutional readiness for such a project in Alaska and this has ramifications for the way in which emerging agencies and plans are developing.

INNOVATION STAGE: MOBILIZATION

SITE SELECTION

Site selection is a significant management issue on two levels: (1) fitting the Alaska component into planning on the federal level for HET experiments, and (2) local control of participation in the demonstration.

The answer to the question, "How and when were the Alaskan sites chosen?" provides insight into the timing of Alaska's participation in the HET experiments. For a summary answer, OT's Education Experiment Manager, Rex Taylor (interview, 4/22/75) prefaced this description with the fact that it was done before he joined the project and that he had had a difficult time trying to find out how the sites were selected. He stated:

> "... the project started out in a much larger form than it is now and there were a lot of sites at one time selected. And then somewhere along the line the need was pressed upon the State to select a few number of sites and it seems to be very unclear as to who actually made this -- the selections that we have now -- but they were selected and sent in and then that was sort of set in concrete from then on."

The much larger form of the project was the Program Plan developed by Bob Arnold (AEBC) and written up in September and December 1972. (C101, C118) The need/demand for information in Washington about Alaska's ATS-F plans followed on the heels of Governor Egan's July 1971 letter (C51) expressing willingness to participate in ATS-F. There was an October 1 deadline for which Alaska requested an extension (C55). Before the end of the year Al Horley (HEW) had included Alaska in a tentative ATS-F time schedule submitted to NASA apparently in order to assure that some time would be open for Alaska (C70, C71). It indicated that NASA needed a programming request by December 31.

The October and December requests for ATS-F plans might not have been out of line with the timing anticipated by the grant from NASA to AEBC via USOE which resulted in the Phase I Teleconsult Study (C29), but the other activities which had been labeled as leading to ATS-F (i.e. formation of the ETC and implementation of an ATS-1 education project [C41]) were just getting organized by the first of October.

A memo from Arnold to participants in the preliminary ETC meeting (C40) May 10, 1971 shows FY'72 funding of $150,000 anticipated (USOE/NASA) which apparently never materialized. The funds which were forthcoming were designated to ASOSS/ATS-1 or ETC travel or program production.

A time request may be as good a place as any to begin actions that lead to experimentation. Obviously, there has to be a first step. On the other hand, an informed request for time allocation presupposes conceptualization of the whole experiment: needs, objectives, content, audience, location, hours, and funding. Clearly no one in Alaska had any such information in the summer or fall of 1971. (The Alaska-based chronology indicates that the S-band experiments anticipated for ATS-G were moved forward to ATS-F [C47]. The present documentation does not indicate whether this was done in anticipation of the cancellation of ATS-G or that Alaskans were aware of any such strategy, if it existed.)

Nearly a year later, the Alaskan planning situation seems not to have been much improved. Direct funding for Alaska's plan had been very slow in coming. Yet the pressure for Alaska's plans to be completed, if there was any realistic hope of an Alaskan education component, was steadily building. An April 18, 1972 memo (C84) from Arnold to the AEBC reports that in a meeting with FRMS officials it was pointed out that "Alaska should identify the number of stations it needs ... before the Rocky Mountain Federation places its order for such stations." At that point the planning money from Horley (C82, C89) was yet to be received and there was still some discussion about whether the satellite position might be moved westerly to improve beam coverage in Alaska (C86).

Although concern was expressed during the summer (C96) that Alaska's most immediate problem was site selection, a November deadline, concurrent with that of the medical component, seems to have been agreed upon (C105) with subsequent slippage to the December Coordination meeting. By the December 18 meeting, the Arnold AEBC proposal had just been received (a month late) and the December plan included 40 sites in Alaska. But "The health segment required only 10 sites with the remaining 30 sites utilized by the education component ... Dr. Law said that he thought only 21 sites were required by Alaska. The present FORMS proposal to HEW did not consider

40 sites." (C119) (According to the Markle Report in late October, FRMS planning had included 46 sites in Alaska - [C110].)

Following the February 5-6 meeting, Arnold reported to Buck (C136) that the immediate tasks to be completed included revising the Alaska proposal to include site locations. The Alaska Telecommunications Project milestone chart attached to the memo is dated "revised as of Feb. 5, 1973" and indicates tentative selection of terminal sites is due before mid-March with final site selection May 1.

Subsequently Bob Walp (AEBC ATS-F consultant) was requested to submit a tentative site list (C138) which for all practical purposes became the final site list. The March 5-9 meeting attended by Northrip (OT) was usurped by the problems caused by the S-band frequency conflict with the military. Northrip's trip report to Buck notes that "until this issue is resolved, all other considerations concerning ATS-F are of necessity held in limbo." (C150)

The February 1973 "Program Plan Revisions" submitted by OT still show site selection completion date as of May but list all 19 locations (without noting Ft. Yukon is health only) and says "the following locations have been selected for experiment sites where the ATS-F earth stations will be located." (C144)

The March 26 (C155) and May 11 (C166) submissions of "Alaska ATS-F Planned Activities" do not mention site selection per se although the May 11 document indicates earth station installation will begin mid-July.

The August 1973 "Alaska ATS-F Planned Activities, July 1, 1973 - June 30, 1974" OT document (C192) lists the 19 sites and states "the following locations have been tentatively selected for experiment sites where the ATS-F earth stations will be located." Ft. Yukon is not designated as medical only.

The March 1974 Program Plan (C259) reports that "19 communities were identified during the first few months of 1973 as sites at which earth stations and associated equipment will be placed to receive television and use voice circuits."

For practical purposes the "tentative list" became the site selection list. Whether the 2250 Mhz frequency conflict or simply the rush to get the job done prevented any actual effort to make a final site selection is not clear. Certainly no substantial effort to make changes has been documented.

Once a tentative list had been named, what about the management issue of local control over participation? Arnold (interview 6/20/75) relates that prior approval by sites was envisioned:

> "That no village would have a station located there until they had been consulted. This was made part of the plan ... Now from the standpoint of consumers, as long as there's an uncertainty about which villages are to be served and how many stations there can be, then it really wasn't possible at that stage. Villages, as you know, have too often had people come in who were going to do this 'if it's okay with you' and they go away and of course nothing ever happens later .... And being a demonstration, the more important question for the villagers was whether they desired to participate. The question wasn't 'what are your educational needs and how can technology meet them.' So I don't really think that was a flaw in itself because we planned to talk to village councils before we ever put in the stations."

The December 1972 plan (C118) said that "consultation with regional Native organizations, appropriate agencies and organizations, and local prospective participants will take place before a community is designated as part of the experiment."

OT's February revision (C144) replaced certain pages of the December plan and appears to have that page intact. But by August, the OT "stand-alone" plan required by NIE (C192) included no such provision. The delay in OT's funding plus other unknown factors had simply eliminated the possibility of a final site selection. OT's initial contact with the sites appears to have taken place in the Summer of '73 with Taylor and McIntire doing site surveys and in September and October with site preparations. (C173)

In September Northrip sent a letter to four regional non-profit Native Corporations inviting them to participate and seeking their advice "... on whom we should contact in each location in order to do the best possible job of maximum local involvement in the project." (C195)

The Northrip letter of September 19, 1973 (C205) to principals and school board chairmen and superintendents provided the schools with official notice of their selection. OT technical and educational staff were traveling to some places for a second visit to make site preparations but as Shaginaw points out (interview, 5/6/75), many village people were away from home in July and August. Shaginaw "tried to contact as many people as I could and tell them about the project, especially school teachers and community members, and that was just kind of a gap-filler 'til the utilization people came through."

The technical people had to make contact to start installations before freeze-up. At the same time OT had no funding commitment from NIE for any programs.

OT felt that its position in notifying sites of the project was jeopardized by the fact that NIE gave no assurances there would be some funding in response to the new proposal. But the necessities of winter construction dictated that work be done. According to Northrip (interview 5/8/75):

> "And so at considerable risk, operating then only with
> planning money, we put George (Shaginaw) on the payroll,
> we go ahead and hire Melvin Charlie and we go to work....
> Still not knowing if we're going to have any money····
> Still not knowing if there's going to be any program."

The NIE October Site Visit Review was very critical of the fact that "... the village people had little to do with the decision to make their village a part of the experiment" and yet at this point OT still had no program funds from NIE (C217, C218, C219).

There seems to be doubt whether all the locations officially agreed to participate. Clearly no site refused or failed to have some kind of community participation in the form of Utilization Aide or Consumer

Committee member or both.

> "NIE had required us to get a letter from each site saying that they would agree to participate in the experiment. And so we determined that we would combine that with a Consumer Committee representative naming. Send us a letter saying that you're going to participate and tell us who your representative's going to be. And I am not sure to this day if we have letters from every community. He (Melvin Charlie) would call them, he visited them, but some of those folks don't write letters." (Northrip interview, 5/8/75)

Some members of the Alaska ATS-6 Education demonstration staff who had direct contact with programming pointed up the difficulties of trying to cope with the audience as reflected in the site selection.

> "And I operated on the basis of well, if these people say they want it, they need it, and I'm going to sit down and present this language program, which I think is a good one for the age group and for the way it is presented. But I didn't find out until quite a few weeks into the program that it wasn't, that the sites weren't selected on the basis of need, that they were selected on geographic location, you know, how far are they apart so that they could test out the satellite program." (Lawner interview, 5/6/75)

> "It was never really clear to me why those particular 18 sites were chosen. It was also never really clear what particular audience we should be gearing the Magazine towards reaching. We definitely knew our main audience was not Juneau, Fairbanks, Anchorage urbanites. Yet how did Valdez and Petersburg fit in? Many of the so-called "villages" were more than half white. What typical Native villager were we supposed to be directing ourselves to? One in Chuathbaluk, or one in Galena? How could we compete with TV already in Galena and McGrath? Especially when we could have drawn a bigger crowd if our program had been on the order of "Hawaii Five-O" or "Kung Fu." These problems I think were generally ignored or glossed over." (McCammon Report, 6.5)

Site selection is almost a paradigm case of the continuation of the historical pattern of federal project implementation on the local level. Clearly Alaska felt a responsibility to avoid the usual experiment-in-the-bush syndrome and yet a tentative site list became a final one. Whether that process had a detrimental effect on the results of the actual broadcasts is not apparent.

> "Well, there was some feeling, you know, that the people should have been consulted more before the topics were picked and even asked whether they wanted to be involved or not. Some of them felt that they hadn't been asked and I don't know whether they were or not, back then, but there was some of that kind of criticism. It wasn't anything serious, I don't think, as far as being uncooperative but it was certainly a feeling on their part that they should have been asked what they wanted and where they wanted it." (Taylor interview, 5/22/75)

But ATS-6 was a one-year project and what is passable under that condition would be inadequate to meet the locally desired level of control over the operation and management of such services permanently established.

INNOVATION STAGE: DEMONSTRATION

SEPARATION OF PRODUCTION AND DESIGN

The separation of production and design functions with subcontractors in different cities working over different contract periods for a project manager in a third city created problems for both the design and production staff as well as for OT, which was called upon to resolve various conflicts.

Three aspects of the separation are evident: institutional, geographic, and different periods of contractual duration.

Justification for institutional separation does not appear to have been questioned in the chronology or the interviews. Northrip explains (C644):

> "If one agency has superior talent facilities and equipment available for design, production and management of program development then the decision is relatively easy to contract with that agency. However, if the resources needed for the task are located in two or three different cities separated by several hundred miles, and cannot be relocated in the same city, is your recommendation going to be to sacrifice the quality of program development and program components and take a chance on an inferior product in order to assure that only one contract with one central agency be in force?"

The October 1973 NIE Site Survey Composite Review (C218) had reported that "The television production for all proposed shows, except for PBS, can and should be done at the University of Alaska production center in Fairbanks." OT had discussed a possible design contract with CNER, also located in Fairbanks, but in mid-November CNER withdrew (C221) from consideration owing to what they felt to be a lack of the extensive lead time necessary. At the same time CNER endorsed NWREL as a possible sub-contractor for design.

OT and NWREL discussed locating the office in Fairbanks, Anchorage or Juneau, but according to Northrip:

> "They advanced some pretty cogent reasons for being in Anchorage, particularly in terms of health professionals for the health ed program being located there, and because

> of the centrality of it in terms of Consumer Committee meetings and other things. And we got into the cost of being in Fairbanks ... they also pointed out that after all this may not be the only thing we do in Alaska for which we'll need an Alaska office and ... we feel that we probably would want to be in Anchorage." (Interview, 5/8/75)

Ultimately the "separation problem" may not have had to do with the dual agency organization although that did require a third, OT, to resolve conflicts. KUAC and NWREL staff members identified the geographical distance and the differing contract periods as more significant than the institutional separation. Both of KUAC's producer-directors felt the physical separation and lack of communication were serious and in final reports (6.5) said that designer and producer either should or must be in the same location. The HE designer felt that Anchorage was an important location for the HE program development, but stated that she determined to contribute extra effort to establishing rapport with KUAC to overcome the problem (interview, 5/28/75). The BOLD designer felt that the physical separation was less important than professional rivalry or perhaps even jealousy (interview 5/28/75).

An examination of the chronology over the period of design, production, and broadcast illustrates the interrelationship between KUAC and NWREL and the more important points where OT resolution was introduced. A time line graphically displays several of the problems which are described in reports, memos and interviews.

Although KUAC and OT had been negotiating a production contract for several months, the bulk of the initial KUAC/OT/NWREL contract was done by KUAC staff on speculation -- staff who were not the principle KUAC ATS-6 staff. The first Consumer Committee meeting took place well before KUAC's contract and required KUAC to agree to the "role and responsibilities of the Consumer Committees (C249); the second CC meeting which approved six preliminary designs met before KUAC had hired an ATS-6 Project Manager; and the third CC meeting (following which KUAC drafted limitation on number of characters and puppets (C302, C307)) took place before the KUAC producer-directors were available. Sixteen of the lesson designs were approved by the CC at that third meeting before the person actually responsible for translating scripts into video was available.

The summer months were preoccupied with the uncertainties about BOLD and ECE and hectic activity connected with trying to get sets and production facilities ready. Problems included delivery of puppets, talent auditions, finding scriptwriters, and establishing working relationships. October, November, and December reveal a system where four bunches of HE and BOLD scripts were being worked on, the earliest ones being broadcast, the next set being produced by KUAC, a later set being approved by KUAC and OT, and a still later set being written by NWREL. Although HE survived the process and its inherent confusion relatively well, the BOLD series created a major conflict between NWREL and KUAC, and required a number of conferences with OT. In November the level of conflict is illustrated by the number of KUAC memos and requests for meetings on the quality of BOLD scripts. This activity culminated in the letter suggesting that KUAC was considering withdrawing its credits from the programs (C466). OT and KUAC interviews report that OT felt such a move was premature by not allowing sufficient time for a corrective process to occur. KUAC concurred and agreed to recall the letter.

In early December NWREL announced that the Anchorage office would be closing in January with HE work completed by January 1 and BOLD by January 15. At that point KUAC faced the prospect of producing roughly half of each series with no interaction with writers or designers possible (C490). Arrangements were made for a mid-December meeting (C500) over such things as advance notice of special production features required by NWREL's BOLD scripts. Prior to Christmas, KUAC notified OT that its complaints over BOLD were not resolved (C508, C509) and an agreement was made to meet in January. At OT's request KUAC generated a number of memos designed to specify its complaints over BOLD. The January meeting constituted the end of BOLD discussions with an agreement to what KUAC called "cosmetic" surgery on the scripts and further alterations to be made as dictated by "technical" problems in production (C524).

Clearly the BOLD problems represented a major expenditure of time and energy which , according to KUAC and NWREL interviews, resulted in no one being completely happy with the outcome. A variety of written reports by KUAC and the round of chronology interviews establishes that each group saw the problem differently and interpreted "the real problem" in different terms.

The geographic separation is seen as most critical by those who worked with it on a daily basis, the KUAC Producer-Directors. Both KUAC and NWREL seem to be aware that one series had fewer difficulties because of its information presentation purpose and because the primary KUAC/NWREL people working on it established a good working relationship. In the case of BOLD, neither the Producer-Director nor the Designer feels the finished product is a good one.

One element in the "production" process stands out as something was critically needed and not successfully implemented: the scripting process. Good scriptwriters, early in the contractual period, might have done much to overcome the hassles. Neither HE nor BOLD had a permanent scriptwriter until August or September, just before or just as production of the first scripts was beginning. In the case of HE, the designer had a degree in Television and needed a scriptwriter mainly to help generate dialogue. The BOLD designer had a teaching theory she wanted to translate into television programs, but lacked the television credentials to justify her theory to KUAC. In addition, BOLD had gotten off to a late start because of the NIE decision. It had problems working out the set and acquiring talent, which remained a source of difficulty for the KUAC/NWREL relationship throughout the production (Cowan, 6.5). A good BOLD scriptwriter, working with the designer very early in the process might well have made KUAC's objections to the series less critical.

Since Alaskan production of relevant materials is a subject of great importance to the project and one which may benefit greatly from an in-depth analysis of "what was learned," the following suggestions are offered as future considerations for those attempting such production. The reasons these problems developed varies somewhat although many of them can be found in the timeline of OT funding problems which includes the NIE Site Visits, and the BOLD/ECE funding uncertainties during the summer of '74. Other problems appear to be simply the result of the fact that this was the first attempt in Alaska to mount such sophisticated production and that the effort was squeezed into an impossibly short time period.

Although agency or geographic separation may be inevitable, such an arrangement clearly needs more thorough investigation next time. If inevitable, the contracts should include a system for maintaining communication on a pre-arranged basis rather than "as needed."

Key people in the design and production process should be hired at roughly the same time. Although production and design functions need not be 100% coequal, more overlap by those who will actually do the work is required than appears to have occurred. (One excellent suggestion for accomplishing such a thing came from Hamilton in his 4/10/75 interview. He visited KUAC in January '75 as he was closing the NWREL office. After observing production in progress noted that both NWREL and KUAC lacked an understanding of the other's problems. He suggests that designers and producers get together for a workshop early in the process where each educates the other to possibilities and limitations.)

The prime contractor should establish an early understanding with the coequal sub-contractors of what the mediating or resolution process will be. Although OT staff feel they did not arbitrate or pass unilateral rulings, both KUAC and NWREL knew that if they couldn't agree the case could be taken to OT and clearly that was done several times. Several memos, which indicate deferred decisions and the complaint by one of the designers that no one seemed to know who was supposed to decide what, underscore the need for a clearer statement of the resolution process before the work begins.

A final set of suggestions or reminders will seem obvious and the reasons such things did not occur are clear in the chronology. They are mentioned here as a set of activities which have to be included as decisions in the planning process: pre-testing of completed production, ability for designers and writers to view completed productions or segments in progress, a systematized method for sharing whatever information is available about audience response to establish a unified designer/producer solution, and consideration of later involvement of the Consumer Committee in some kind of designer/producer/consumer evaluation of the completed programs.

INNOVATION STAGE: DEMONSTRATION

INTERNAL EVALUATION

Two important aspects of the internal evaluation as an issue related to the Alaska ATS-6 educational demonstration include: (1) the question of why there was no internal evaluation built into the projects, and (2) what appears to be a host of unplanned and uncoordinated attempts on the part of different individuals working within the demonstration to make up for that lack by using a variety of means to gather information.

In relation to the first point, a question that is raised but cannot be answered is why did the NIE project officer advise OT in July, 1974 (C190) "... not to include any requests for funds for evaluation." This is followed by the statement: "NIE expects to support an independent study of the costs and effectiveness of all the satellite projects."

The latter statement suggests NIE plans to fund an evaluation *external* to the project, while the former suggests the project need not include an *internal* evaluation component. Was it NIE's intention to infer that both types of evaluation are not necessary in a large social demonstration of this sort, or were they indicating that information/feedback for project management and modification could be supplied by the independent external evaluator? No documentation was found to indicate that the statements in the letter were questioned (C190).

Further confusion three months later (C216) occurs when an internal NIE memo states an apparent contradiction. The project officer said that the "Alaskan program should contain formative and summative evaluation to the extent deemed appropriate for the (subsequent) successful implementation of the project."

Meanwhile, in September (C202), the Lister Hill Center reviewed the Alaska OT proposal for the NASA Task Force on Technooogy. It noted the proposal lacked an evaluation component and estimated the cost at $500,000.

OT later (C280) went through the formality of issuing an RFP for an internal evaluation of the project for a far smaller amount (maximum $24,000). A response from Anthropos was selected (C327) and approved by NIE (C336). However, no contract was ever issued. Though Anthropos submitted, at OT's request, a downward budget revision ($16,000) and a revised plan (C356), as late as November they were still corresponding about the possibilities (C421, C457).

That there was no internal evaluation funded appeared not to be communicated to the subcontractor. In November Hamilton (NWREL) included specific reference to an internal evaluation in an article he was writing (C474) and when questioned on this, said he was unaware that the internal evaluation had not been funded.

Informal conversations with OT, substantiated by a review of the critical events of this period, suggest that continued funding uncertainty plus the myriad of details in beginning broadcasting were probably key factors in not further pursuing a contract for internal evaluation. (An OT letter to Anthropos (C457) specified funding uncertainties as the reason for not going ahead with the contract.)

However, lack of attention to this phase of the demonstration was most unfortunate. The ATS-1 education project has found that the internal ongoing or formative evaluation produced useful information for modifying the program plan (C184). The ATS-1 evaluator had corresponded with OT about ATS-F evaluation plans and in May 1973, was told a two-year contract was planned, specified to begin in July 1973 (C172). This immediately preceded transfer of the project to NIE. As noted at the beginning of this paper, NIE had advised against includinq evaluation funds in the newly requested proposal. It is interesting to speculate whether the project would have remained under NCET, beginning as early as July 1973, had there been an ATS-F internal evaluation.

In discussing the lack of an internal evaluation, a DOE planner noted:

> "You've been involved in experiments enough to realize that when you're that close to it and when the thing is so crisis oriented

> as this one was -- that internal evaluation is almost perceived as a luxury instead of an absolute necessity. I think we should have pushed much harder to keep our internal evaluation funds intact. And I think we could have been fairly successful in getting them reinstated from NIE, at least in terms of their on-site reviews, that kept saying we didn't have any external evaluation. Had the funds been there and been in place, and had we been able to gear up early on, before we ran into all the crises, I think we would have gotten the (evaluation) process established. I don't think there was any resistance, for example, on the part of OT to have that kind of process -- it was just that when you are dealing with that kind of atmosphere where the rules keep changing every other week -- that's not the most important thing on your mind, even though it should be. You know how an internal evaluation process in place would have really helped us."

Though there was no coordinated or planned effort to make up for lack of an internal evaluation component, it appears various staff members felt a need for feedback. They made individual efforts to gather such information, through formally collecting data by questionnaires or observation, by asking questions during field work, and by requesting and logging data during transmissions.

One instance of a program pilot test was noted (C370) where the designer and producer/director of the health series tried out a few of the first "Right On!" programs with a small group of children at the Native center in Fairbanks. The designer interviewed the children after the tapes had been shown and wrote up a description of their reactions (no field testing prior to broadcasting had been built into the demonstration). This designer and producer/director also corresponded about the need to get together to plan some sort of evaluation of their own (C393).

Soon after broadcasting had begun, various OT and sometimes KUAC staff made visits to some of the demonstration villages, informally observing and interviewing as recorded in trip reports (C436, C461). (The director of the design subcontract said during an interview [4/10/75] that he felt his staff also would have benefited by being included on trips of this type rather than getting information about how the programs were received secondhand.) Similar trips are made at other times. KUAC also used their field work time to collect evaluative information and do some formal interviewing

(C530,C613). Several unsolicited letters from Utilization Aides (C463, C496) and teachers (C439, C463, C496, C569, C577A, and others) were received.

During December the Right On! designer and producer/director sent a letter to nine randomly selected teachers enclosing a 34-item evaluation form (C509). (The limited number was selected to avoid form clearance procedures.) Similar questionnaires were later sent on the interactive portion of BOLD by the interactive teachers (C573).

The following month DOE sent out an evaluation questionnaire to all teachers (C140) along with a newsletter on the Teacher In Service Training series. Only two were returned.

During January 1975, OT requested letters of endorsement for continuation funds (C537). From this point on, it is difficult to tell which letters of an evaluative nature from the field are truly unsolicited.

Other types of materials which are considered suitable for analysis for evaluative purposes include the minutes of the Consumer Committees; the Utilization Aide and "College Remote" logs (C549); requests for copies of program tapes to use in non-ATS-6 sites in Alaska and elsewhere (C430, C505, C518, C522, C523, C574, C578, C597); and redirections as defined by proposals for continuation (C527, C553). Another source of material is the report from the May 1975 OT/CNER sponsored "ATS-6 Evaluation Conference."

Though many attempts to gather data are evident, the lack of an organized objective evaluation approach means a considerable loss of information about the project and its effectiveness in meeting different objectives. Many of the most important lessons to be learned from a demonstration come from describing what did not work and analyzing the cause of failure. What seems to have happened in the case of ESCD/Alaska was rather than dealing with identification and analysis of the problems, the reports circulated about the demonstration beginning less than one month after broadcasting began instead highlighted the successes in terms of efforts to extend or replace the use of the satellite and/or programs. In the absence of well-designed evaluation efforts, the information regarding what didn't work and the analysis of why this happened was lost or simply not encouraged.

OT is now in the process of completing their final report to NIE. While no such reports were required by OT from the subcontractors (KUAC and NWREL), PCI understands that both subcontractors are or have considered issuing a report on their experience with the demonstration (C595).

The only evaluation plan documented and implemented was done in regard to a program effort conducted by the Alaska State Library under funding by the Higher Education Act 2B (C627). In connection with the results of that effort, a recent letter from an Alaska State Library staff person referred to problems highlighted in their report which were of an administrative and logistical nature and which had not been seen in written or verbalized form elsewhere.

THEORIES AND HYPOTHESES ABOUT ALASKA NATIVE MAGAZINE ATTENDANCE*

An attempt was made to test various theories about factors which effected attendance at the Alaska Native Magazine broadcasts based on incomplete attendance data available from the logs of the Utilization Aides. Although inconclusive, there is evidence that regularly collected and forwarded data on attendance can be of value in guiding programming staff during the course of demonstrations.

The theories tested were:

- If a site becomes a special focus of programming attention, viewership will increase during that attendance period (Special Attention hypothesis);
- Although initial interest in ANM was high, program delays early in the demonstration, technological delivery problems, and general dissatisfaction led to an irreversible attendance slump [Slump Theory I];
- A change in program format would counteract the drop in initial enthusiasm toward ANM (at program 20 the format was changed in response to a perceived drop in attendance interpreted as due to "too much chit-chat, too many interviews") [Slump Theory II).

None of the above predicted attendance patterns at sufficiently above random chance probability to allow endorsement of a theory. The best explanation seems to be: life at each site consists of unique patterns and rhythms which account for the probability of viewing ANM. These override any external factors and should be a major consideration in formulation of future attempts at non-formal adult education in Alaska.

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* The analyses are not derived from the chronology of critical events, but rather from attendance records supplied by the Alaska Office of Telecommunications.

I. IF A SITE BECOMES A SPECIAL FOCUS OF PROGRAMMING ATTENTION, VIEWERSHIP WILL INCREASE DURING THE ATTENDANCE PERIOD. (THE SPECIAL ATTENTION HYPOTHESIS)

Two kinds of attention are relevant to testing this hypothesis; (1) when the site is featured in some way on the ANM program, or (2) when the film crew visits a site to gather ANM footage. Both have been advanced as reasons for increases in attendance at a given site.

To test the hypothesis, weekly attendance log entries for each site with (a) more than 60 percent complete attendance data, and (b) no alternate method of viewing ANM[1] were compared with the simultaneous presence of at least one of the above two types of special attention. To make this comparison each log entry was dually classified, (a) as either above or below the site's median attendance level, and (b) whether or not special attention was paid to the site that week. The data for the five sites[2] meeting the above selection criteria were combined to give 125 instances of weekly ANM attendance, 22 of which were occasioned by special attention as defined earlier. Table I summarizes the relative numbers of instances in which special attention was occasioned by above and below median attendance.

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[1] For example, Petersburg had home cable access to ANM, and Minto could receive KUAC direct from Fairbanks on about 25 home units.

[2] Allakaket, Chuathbaluk, McGrath, Sleetmute, Tanana.

TABLE I

RELATIVE MEDIAN ANM ATTENDANCE LEVELS BY FREQUENCY OF SPECIAL ATTENTION TO SITE

ATTENDANCE	FILM CREW VISITED OR VILLAGE FEATURES		TOTAL
	YES	NO	
Above site median	11	53	64
Below site median	11	50	61
TOTAL	22	103	125

X^2 = .015, df = 1, P not significant.

II. ALTHOUGH INITIAL INTEREST IN ANM WAS HIGH, PROGRAM DELAYS EARLY IN THE DEMONSTRATION, TECHNOLOGICAL DELIVERY PROBLEMS, AND GENERAL DISSATISFACTION LED TO AN IRREVERSIBLE ATTENDANCE SLUMP. (SLUMP THEORY I)

If this were the case, below median attendance should have occurred significantly more often in the later parts of the series run.

Table II summarizes the number of times below-and above-median attendance occurred in each quarter of the ANM series run.

TABLE II

ATTENDANCE AT ANM BY QUARTER OF SERIES RUN

ATTENDANCE	SERIES QUARTER 1	2	3	4	TOTAL
Above median for site	16	16	16	16	64
Below median for site	13	16	17	15	61
TOTAL	29	32	33	31	125

$X^2 = 0.30$, df = 3, P not significant.

No apparent attendance "slump" was observed when the series run was quartered, so Slump Theory I is not supported.

III. A CHANGE IN PROGRAM FORMAT WOULD COUNTERACT THE DROP IN INITIAL ENTHUSIASM TOWARD ANM. (SLUMP THEORY II)

Since general attendance changes could occur at anytime during the series run, dividing the run in only one way, as in Table II, could conceivably obscure the pattern if an attendance "slump" crossed quarters. Also, Slump Theory II gives an *a priori* basis for dividing the series run into three parts since it predicts an increase in attendance in the third trimester of the series.

Table III shows attendance data over the series divided into three periods. While there is an apparent trend toward a mid-trimester slump followed by recovery, the effect is by no means strong enough to support entertainment of either Slump Theory I, or Slump Theory II.

TABLE III

ATTENDANCE AT ANM BY TRIMESTERS OF SERIES RUN

ATTENDANCE	TRIMESTER 1	2	3	TOTAL
Above median for site	23	15	26	64
Below median for site	16	21	24	61
TOTAL	39	36	50	125

$\chi^2 = 2.27$, df = 2, P not significant.

In general, the above theories all attempt to relate generalized factors in the nature of programming, the media, or total site behavior, to demonstration-wide accounts of ANM viewership. The lack of explanatory power, in any of the above theories and accounts leads logically to the next step in analysis: examination of site factors, in which attendance patterns for each location are analyzed for clues about viewing behavior not accounted for by more general processes.

The greatest methodological problem associated with this next step in analysis is the reduction in sample size occasionsed by dividing the data into site-size units.* However, some important clues might be revealed which make the exercise worthwhile. The theory addressed by this part of the analysis is that:

> Life at each site consists of unique patterns and rhythms which account for the probability of viewing ANM, more than any other external factors. (The Site-Size Theory)

The attempt here is not so much to reveal what these unique life patterns are, as to reveal the possibilty that attendance patterns were indeed unique enough to warrant further exploration.

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* On the basis of the information given in Table IV, the distribution of above median and below median attendance was independent of the quarter in which it occurred, thus corroborating the view that site-specific factors probably account for the variations in attendance. (The value of chi-square for 12 degrees of freedom is 26.217 at the .01 level of significance. The computed chi-square values are 18.65 for sites with attendance above the median and 22.01 for sites with attendance below the median. It is not possible, therefore to reject the hypothesis of independence.)

Table IV summarizes quarterly attendance patterns for each of the sites included in the previous presentations.

TABLE IV

QUARTERLY ATTENDANCE AT ANM FOR FIVE ATS-6 SITES

SITE	ATTENDANCE	QUARTER				TOTAL
		1	2	3	4	
ALLAKAKET	Above median	0	5	4	1	10
	Below median	4	0	2	4	10
CHUATHBALUK	Above median	4	2	5	3	14
	Below median	3	5	2	3	13
MCGRATH	Above median	3	0	4	6	13
	Below median	2	8	2	1	13
SLEETMUTE	Above median	5	5	2	2	14
	Below median	2	1	5	5	13
TANANA	Above median	4	4	1	4	13
	Below median	2	2	6	2	14
TOTAL		29	32	33	31	125

Even though the sample sizes of each site are too small to warrant satisfactory statistical tests, cursory inspection indicates the five different sites to have distinct attendance patterns. For example, Allakaket shows relatively low attendance followed by two quarters of high attendance and ending low again. On the other hand Sleetmute showed high attendance in the first half and low attendance in the second half. Both McGrath and Tanana showed distinct semi-interquartile attendance slumps but each in a different quarter. Finally, Chuathbaluk shows apparently even attendance throughout the series run.

The probability of viewing ANM seems to have depended on the preference for engaging in alternative behaviors which, based on the attendance patterns, were specific to each site. There is no evidence for any particular factor inherent in either the medium or the message to be especially captivating within the demonstration time period.

DISCUSSION

Perhaps the best theory of all is one which takes into account site-specific activity patterns or rhythms which, at least for this period, outweighed interest in viewing ANM. Such a theory would have to avoid system-wide generalizations about the effects of programming changes, such as supposed enthusiasm with the medium, or being the subject of special attention. Each factor would have to be assessed in the context of the particular activities of the site with which the medium is in competition.

But any current theory about attendances based on this demonstration must also assume its own transitory nature. That is, the nature of voluntary attendance patterns during the relatively brief demonstration period should be considered only temporary manifestations of viewing appetites in response to one concept of programming for a finite period of time. Over extended periods of time, indefinite in length and with greater program variety, the probability of upward modifications in viewing appetites would most likely increase.

Television viewing is necessarily exclusive of other kinds of behavior with which it is incompatible. Given this truism, and given the earlier assertion that viewing appetites can only increase with the availability of more programming, the probability that watching television will eventually exclude other competing activity (unique to each site) is only a matter of time. The process over time, of television viewing supplanting or modifying an increasing number of currently engaged in local activities is basic to the issue of its community impact.

Significant questions for the future are:

1. With which site-specific (or even general) behaviors is television viewing (a) compatible, (b) incompatible?

2. To what extent are the incompatible alternative behaviors expendable to (a) the person, (b) the community, and (c) the culture; that is, what are the costs, psychological and cultural as well as fiscal, occasioned by increased availability of television and an increase in watching it?

3. Are there feasible alternative forms of program delivery (scheduling, etc.) that would reduce or eliminate current incompatibilities?

4. Given the site-specific nature of the probability of competing alternative behaviors, can alternative forms of delivery be made both site-specific and compatible?

5. With increased television viewing, whether the "quality of life" will be better or worse, is a matter of local opinion. That the "quality of life" will change and therefore demand local adjustment, is certain. Will the necessary adjustments be occasioned by behaviors locally accepted as life enhancing, or will there be an inevitable "trade-off" between "quality of life" enhancement and deterioration? If so, in whose hands will the negotiations for the "trade-off" reside?

INNOVATION STAGE: DEMONSTRATION

Management Problems

Management problems were evident at several levels in the demonstration, each further compounding those that followed. At the federal level, direction was often unclear and likely to change. Two main agencies were involved with no permanent central coordination. Relations between the state and federal level were complicated by multiple sources of funds and directions, an unplanned change of agency monitoring the project, uncertainty of funding throughout, lack of planning time and funds, and a separate equipment contract. Within the state, management areas of concern include lack of field tests, site selection, and change of offices, all related in some degree to management problems at higher levels.

INNOVATION STAGE: DEMONSTRATION

Interaction

Interaction was meant as the innovative way in which the satellite would make local involvement possible. Several problems, however, arose from the use of interaction. One such problem resulted from the inability (due to age) of the intended audiences to speak intelligibly on a poor audio channel. Problems were also caused by the inadequate design of ATS-1/ATS-6 hook-up, by lack of provision for sites to hear different ATS-6 audio channels (i.e., languages) simultaneously, and by origination of interaction apart from main instructional programs. Social and cultural factors were key contributors to inhibiting use of interaction.

INNOVATION STAGE: DEMONSTRATION

The Role of Consumer Committees

The ATS-6 consumer committees, as an attempt to provide significant local input to planning and operations, were regarded with mixed feelings. On one hand the three committees appear to have contributed in differing degrees to the decision making process once the project got underway. On the other hand their membership (institutional vs. lay vs. professional), their intended and/or actual role, and their capability to change the direction of the project are being questioned.

INNOVATION STAGE: DEMONSTRATION

Separation of ATS-6 Health and Education Demonstrations

The ATS-6 Health Demonstration in Alaska was managed by another agency and the two seemed to have been carried out totally independent of each other. At the village level, the education demonstration served more villages but there was an overlap in some. An analysis of similarities and differences between the two Alaska demonstrations might offer useful insights, as the health demonstration is the closest comparable program effort to the education demonstration available for study.

INNOVATION STAGE: OPERATIONS

THE "MATERIALS DISTRIBUTION" MODE FOR USING SATELLITE TELEVISION

A major message of ESCD/Alaska (presented in Section III) is that satellite television operations must justify themselves solely on the basis of cost effective, timely access to programming. Satellite television in rural Alaska cannot be justified on the basis of real-time viewing, or live audio interaction which is integrated into the video programming. The findings do indicate that whether the satellite television is new or "canned" is irrelevant to decisions about satellite television.

Potential justifications for satellite television are:

- Programming Access: Perhaps programs are available via satellite which are not available via the mails.
- Reliability: Perhaps satellite TV requests are answered with higher probability and more accurately.
- Ease of Access: Perhaps satellite TV can simplify requesting procedures (e.g., short-cutting bureaucratic requirements).
- Cost: Perhaps programs can be provided cheaper via the satellite than via the mails.

The use of satellites in the above fashion is usually refered to as the "materials distribution" mode. Reasons why the "materials distribution" mode might be especially appropriate to Alaska are the following:

- School financial resources are limited;
- VTRs exist in virtually all rural Alaskan schools;
- Weather often prevents airplane and mail access to villages;

- Distances are long between distribution centers and the villages which hinders the communication systems;
- Mailing costs are high;
- Teachers encounter a variety of problems obtaining taped materials (see Figure III-14).

The "materials distribution" mode for using satellite television was not assessed directly by ESCD/Alaska. However, it was a component of ESCD in the Rocky Mountains, which operated concurrently with ESCD/Alaska. Following is a brief description of "materials distribution" as it took place in the Rockies:

> Commercial educational films on a wide variety of topics were distributed via the satellite for videotaping and later use by the schools. Approximately 400 films were available and are listed in a catalog. Teachers at STD (ESCD/Rocky Mountains) sites express their preferences on mail-in order forms and the "most requested" films are transmitted. Each site had the option of recording two hours per week of materials; all sites could receive the transmitted programs.
>
> These films came from two organizations which normally distribute educational films by mail. The Great Plains National Instructional Television Library was paid about $14,000 for 100 programs, varying in length from 15 to 45 minutes.

"Materials Distribution," as the term is used here, does not confine transmission to "canned" materials. It does mean, however, that the decision between new and "canned" programming is irrelevant to decisions about satellite television. "Materials Distribution," as it is used here, means thinking about satellite television purely as a means of programming access, and not as a means of providing live interaction and real-time viewing.

A COMPARISON

One way to evaluate the use of a satellite for materials distribution is to compare the costs via satellite with the costs via traditional modes, such as mailing tapes. A first approximation of a break-even equation for deciding between satellite television and mailing of tapes is defined as follows:

Cost of Mailing Tapes ≈ Cost of Distribution via Satellite

This model can be broken down as follows:

Cost of Mailing Tapes* = Annualized Cost of Master Tapes
+
Annual Redubbing Cost
+
Annual Mailing Cost

and

Cost of Distribution via Satellite* = Annualized Cost of Master Tapes
+
Transmission Channel Cost
+
Annualized Recorder Costs (summed over sites)
+
Annualized Earth Station Costs (summed over sites)
+
Tape Use Cost (summed over sites)

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* Annualized costs refer to annual recurrent costs plus capital costs that are depreciated over the estimated life of the items and takes into account the changing balue of the capital over the project life. The equation for annualized capital costs is $C(r,n)=[r(1+r)^n]/[(i+r)^n-1]$ where where "r" refers to annual rate of interest (or discount) and "n" refers to number of years of life of the item.

Annex A details the cost calculus. The following summary of costs is intended as suggestive only, reflecting as closely as possible the situational parameters for the Alaska School System.

ITEM	ANNUALIZED COST PER SCHOOL	
	MAILED TAPES	SATELLITE DISTRIBUTION
Master Tapes: 800½ hour segments	$3,660	$ 152
Redubbing	4,806	-
Transmission Channel	-	960
Earth Station	-	1,250
Recorders	-	1,500
Tape Usage	-	275
Mailing Cost*	-	-
TOTAL	$8,466	$4,137

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* deliberately ignored (See Annex A).

The above is only a first approximation because it does not take into account such variables as: reliability, ease of access, timeliness, etc. Presumably, these factors favor the distribution via satellite. Furthermore, economics of scale are available such that one system may prove less costly under ~~one~~ set of conditions and more costly under another. The economics of "Materials Distribution" as it was used by ESCD/Rocky Mountains is being analyzed by the Educational Policy Research Center at Syracuse University. A potential area for exploration during the second year of this study is to examine "Materials Distribution" in the context of rural Alaska.

ANNEX "A" TO "MATERIALS DISTRIBUTION" MODE

MATERIALS DISTRIBUTION

Studies have shown the effectiveness of good program content in the learning process. Ideally such content would be available for use in all school systems, urban and remote. However, the cost of delivering this material can impede its use. The communication satellite has been toated as probably providing an answer to the distribution problem, but our studies have shown that this is highly dependent on each individual situation. Therefore, it is important to investigate this hypothesis in the light of Alaskan reality.

The State and RCA have begun to install satellite earth stations in bush Alaska. By 1977, RCA intends to have a satellite in orbit which can transmit TV to stations with antennas as small as 10 feet. They have also stated that for health services, and therefore we assume education also, the per hour rate for a TV channel could be well below $500. These realities make satellite distribution worthy of serious consideration.

Two methods of content distribution are investigated; mailed video tape and commercial satellite. In both cases existing educational material is assumed. In the instance of mailed video tapes, tape copies are made from a master tape and sold to individual institutions. The materials are retained for a period of 3-4 years (the useful life of the average program) and replaced by improved programs. In the instance of the satellite, a master tape is played over the satellite, reviewed and recorded at each institution automatically. After a suitable time, required to account for differences in time of recording and time of use, the tapes are erased and reused.

ASSUMPTIONS

a. The curriculum is basically the same for all primary schools. Therefore, the programs required can be used by all schools, although the time of their use if not precisely predictable. The importance of this assumption is the following:

  - The set defining the great majority of materials available is finite and determinable in advance;
  - Materials distribution can be scheduled in advance;

b. 250 village primary schools;

c. Approximately 400 hours of programming will be required for the school year (9+ months). This is made up of 800-1/2 hour lesson segments;

d. Sharing of tapes between schools is difficult to realize in practice. Therefore, (a) each school requires its own tape library, or (b) two schools share a single tape library;

e. The average life of a program tape is approximately 3 years;

f. The cost of mailing tapes is deliberately ignored;

g. Schools use 1/2 inch helical tape machines;

h. Annualized costs are amortized over 10 year at 8% interest;

i. Satellite channel costs are $230/hour and $500/hour;

j. Receive-only earth station required for each school in the satellite distribution mode.

MAILED TAPE CASE

Video tapes are obtained from tape libraries similar to that run by the National Instructional Television Center. The least expensive approach is to have the programs dubbed on the users own stock which the user then keeps. The use fee is reduced for successive years. This is almost equivalent to the normal fee if used for 3 years(the useful life of the average program).

Annual fee calculations per school for 400 hours (800-1/2 hour segments) dubbed on 1/2 inch helical tape:

Tape	$12.50 per 1/2 hour		
Duplication	$18.00 per 1/2 hour		
TOTAL	$30.50 per 1/2 hour		
Total for 800 segments		$24,400	
Annualized cost[1/]			$3,660
Redubbing of 267 tapes/year[2/]			$4,806
Total Annual Cost			$8,466

COMMERCIAL SATELLITE DISTRIBUTION

In the satellite distribution mode a master tape is received from the tape library and played over the satellite. The signal is received at each school on a 10 foot receive-only earth station. The signals are demodulated and fed to a recorder. For purposes of this analysis and to ensure that costs are well within the assumed channel costs (assumption i) this process will take place in early morning (not prime communication time). Transmission of 400 hours of programming can be accomplished by transmitting 2 hours per day, five days/week. If transmitted during the normal working day someone can change reels between transmissions and a single tape recorder can be used. Worst case assumption is to require two machines, each one recording an hour's programming. Both cases are included.

The cost elements of this analysis are:

- master tapes;
- transmission channel;
- earth station;
- recorders;
- tape usage.

1/ Under assumption h, the multiplication factor is approximately 0.15.

2/ Under assumption e, programs outlive their usefulness and the tapes must be reused for updated programming. Approximately 1/2 are redubbed each year.

COST OF MASTER TAPES

A master tape is acquired from the tape library and returned shortly after transmission. The master tape has been assumed to be 2 inch Quad tape (the most expensive and cleanest available).

Base rate	$45 per 1/2 hour	
+ $1.25/10,000 students	$2.50 per 1/2 hour	
TOTAL	$47.50 per 1/2 hour	
Annual cost of 800-1/2 hour segments		$38,000
Annualized cost/school		$ 152

TRANSMISSION CHANNEL COST

A commercial channel is utilized two hours per day during non-prime communication time. The costs allocated to the educational community is calculated to be that of the channel plus a transmission charge. The transmission charge being a fraction of the cost of earth station annual operation costs. This is an assumed additional cost to be sure that the estimate is a pessimistic one.

Ordinarily this cost is included in the channel cost.

Channel Cost (400 hours @ $230/hr)	$ 92,000	(Condition A)
(400 hours @ $500/hr)	$200,000	(Condition B)
Transmission Charge[1/]	$ 40,000	
Annual Cost/School		
Condition A	528	
Condition B	960	

[1/] Estimate that a large earth station may cost approximately $1,000,000 per year to operate and maintain. Using the satellite two hours/day in non-prime time for 9-1/2 months, we can allocate approximately 1/25 of this cost to education.

EARTH STATION COSTS

It is planned that by 1977 only 100 "bush" stations will have been installed. To ensure that all schools can receive the benefits as soon as available, a receive-only earth station is assumed for each school.

Capital cost of station	$5,000	
Annualized cost		$750
Maintenance (.1 X capital cost)		500
TOTAL ANNUAL COST		$1,250

RECORDER COSTS

All schools will have tape players regardless of whether tapes are mailed or delivered via satellite. The difference will be the need for recorders with the satellite system. We will assume two situations: a single recorder where signals are received during school hours but in non-prime time and two recorders where the signals are received after school hours. The two recorders in the second instance will be turned on and off automatically and must be so equipped. Additional cost is permitted for this case.

Recorder Costs		
Without automatic turn on-off		$2,000 each (Condition C)
With automatic turn on-off		$3,000 each (Condition D)
Annualized Cost		
Condition C	$300	
Condition D	$900	
Maintenance Cost		
Condition C	$200	
Condition D	$600	
TOTAL ANNUAL COST/SCHOOL		
Condition C	$500	
Condition D	$1,500	

TAPE USAGE

A certain number of tapes must be on hand at each school to store the programs for a reasonable time until they are used and the tapes can be used again. Two weeks is assumed to be a reasonable time between recording and use. This requires, therefore, that 20 hours of tape be purchased for this function.

A tape can be played a minimum of 100 times before it has to be replaced. Assuming that each 1/2 hour program is recorded and played (no replays between), then 8 additional hours of tape is required.

Tapes (20 hours) required due to scheduling mismatch	$500	
Replacement tapes (8 hours)		$200
Annualized cost of 20 hours of tape		$ 75
TOTAL ANNUAL COST/SCHOOL		$275

SUMMATION

Several options appeared under Transmission Channel Costs and Recorder Costs. To bracket the cost the following table will combine Options A and C (lowest cost) and Options B and D (highest cost).

SATELLITE DISTRIBUTION COST

	Options A & C ($)	Options B & D ($)
Master Tapes	$ 152	$ 152
Transmission Channel	528	960
Earth Station	1,250	1,250
Recorders	500	500
Tape Usage	275	275
TOTAL COST	$2,705	$4,137

Comparing the mailed video tape case with satellite distribution shows a definite advantage for satellite distribution: 2:1 for the worst case comparison and 3:1 advantage for the best case. The reason is the relatively large number of schools which allowed the transmission channel costs to be spread and the relatively large number of tape-hours required which drives up the costs in the mailed tapes case.

BREAKEVEN

Under the assumptions made above which tends to favor mail distribution, a breakeven equation can be formulated which gives the number of hours which must be used by the 250 schools in order to have the mailed tapes equal the cost of satellite distribution. For this example (options A and C) it turns out to be 92 hours or 184 ½ hour segments per year or about ½ hour transmission per night. Another interpretation can be given to this result; i.e, that if 250 requests were received for at least one tape each day, the satellite system could be responsive to requests rather than working on a scheduled basis. Obviously this is a ridiculously high requirement. Under conditions of random request the mailed tape approach is by far the cheaper for the situation presented here. However, as pointed out earlier, this is an unnecessary conditions.

It is interesting to note that if the higher channel rate is assumed, i.e., 400/hour, the breakeven occurs at 99 hours of transmission. The interesting conclusion is that the cost is almost insensitive to communication charges for a large number of schools. A very important result to keep in mind.

The breakeven equation is:

MAILED TAPE COST = COMMERCIAL SATELLITE DISTRIBUTION COST

or

Annualized cost of duplicated tape (A) + Annual Redubbing Cost (B) = Annualized cost of master tapes (C) + transmission channel costs (D) + Annualized recorder cost (E) + Annualized earth station cost (F) + tape usage cost (G)

Where

$[illegible] = \$61T\ (.15)$

$B = \$36 \times \frac{T}{3}$

$C = \$95 \times \frac{T}{S}$

$D = \left[R \times \frac{T}{S} + \frac{\$10^{G}}{8 \times 10^{3}\ \text{hrs.}} \times \frac{T}{S} \right]$

$E = \$500$

$F = \$1,250$

$G = \left[2 \times \frac{T}{40\ \text{wks}} (.15)(\$25) + 2 \times \frac{T}{100\ \text{plays}} (\$25)\right]$

Plugging these into the equation above results in the general equation:

$$20.5T - (220 + R)\frac{T}{S} = 1,250 + 500 \qquad (1)$$

Where

T = hours of tape

S = # of schools

R = transmission channel rate ($)

This equation lends itself to many interesting variations; i.e., we can fix the parameters and let earth station costs vary to see how sensitive breakeven is to earth station cost. We can do this by substituting .15C + .1C for the 1,250 shown in the equation, when C = capital cost of the installed earth station. For example, double the earth station cost and use $500/channel hour, equation 1 becomes:

$$20.5T - (770)\frac{T}{250} = 2,500 + 500$$

$$17.5T = 3,000$$

$$T - 171 \text{ hours of tape}$$

Doubling the cost of the station has increased the required number of tape hours by 73%.

FUTURE ALTERNATIVE

The desire to have a single system which is responsive to any and all users of program material approaches the need for a system totally responsive to individual requests. We have seen that video requires a large number of requestors for the same item for the system to be cost-effective. An important reason for this is the fact that one hour of video requires one hour of transmission. This has a second and even more fundamental limitation: there are only a very small number of hours in a day and even a channel dedicated solely to video can only transmit 48-1/2 hour programs/day. This could not satisfy a large population of random requests even if transmission charges were zero!

An alternative which has very exciting possibilities is VIDAC[1] which has been tested in the Georgia school system and other individual users. This device takes advantage of video's very wide bandwidth to transmit a large number of audio-slide presentations, i.e., a hour audio-visual presentation (120 slides) can be transmitted in 8 seconds. At $500 per transmission channel hour, this costs the user 14¢ (6¢ if channel/cost is $230). It is also reasonable to assume that production costs would be greatly reduced, let us say, by a factor of 2 at least. The way VIDAC works there is no need for a recorder/player or tapes and its output can feed directly into a TV set or other distribution medium. The breakeven equation for this situation becomes amazingly simple.

$$10.5T = 45\frac{T}{X} + .14T + \frac{125}{225}T + 1{,}250 + V_a$$

Where T = hours of programming (real-time)

V_a = Annualized cost of VIDAC equipment.

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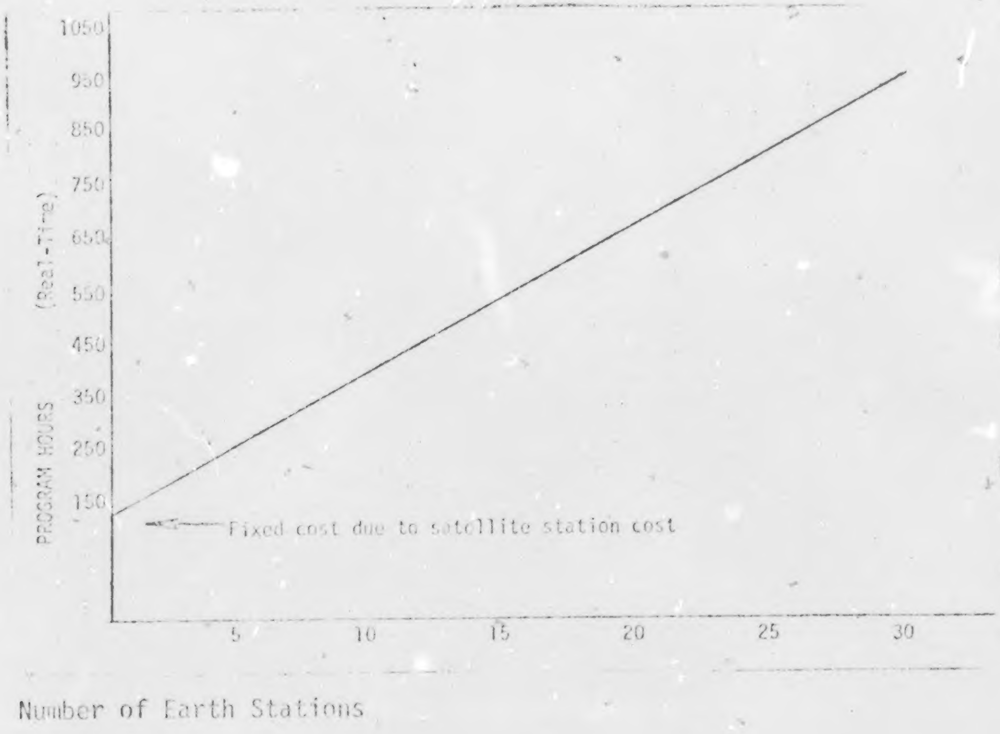
[1] Experimental versions of this device are built and handled by Westinghouse Corporation and DGA Incorporated.

The symbol X requires some explanation. If we assume the system works similarly to the video situation, then the broadcaster must pay to have each slide-audio segment duplicated (assume this is half the cost of video). To have to pay this cost each time a request comes in would be impossible because the system would never be cost-effective. However, having unlimited transmission rights for a year (permitted) the cost of a dubbing will be amortized over the number of users (X) per dubbing. If $X > 58$ (a reasonable expectation) the contribution of this factor to the cost is small and may even approach zero. If the tape library already owns the rights to the material this factor may not even show up but be included as a slight additional charge.

When $X = 50$, the equation becomes: $9T = V_a + 1,250$ (2)

Therefore the number of program hours in order to justify the added equipment is a function of the equipment cost and can neatly be represented graphically.



This approach has the potential to permit any organization to request a program at any time and have it delivered over night. The capacity of such a system is tremendous. This is its major virture! The diversity of material which could be transmitted is orders of magnitude greater than that of a pure video system.

INNOVATION STAGE: OPERATIONS

ESCD/Alaska Effect on Future Planning

The extent to which operation of its own satellite TV demonstration has affected telecommunications planning in Alaska remains unclear. The importance attributed to ATS-6 by those in charge of planning can be studied, from one source, through the press. For example, during the demonstration period, press coverage of satellites in Alaska has focused almost exclusively on the provision of telephone service to bush Alaska.

INNOVATION STAGE: OPERATIONS

The Public Service Satellite Consortium

The formation of the Public Service Satellite Consortium of potential users of ATS-6 type service is seen as a possible avenue for speeding up the development of operational satellite TV service to small earth stations. Given Alaska's unique dependence on a satellite delivery system for a variety of communications purposes, Alaska's involvement in PSSC deserves further study.

INNOVATION STAGE: OPERATIONS

Future Use of ESCD/Alaska Ground Installations

Arrangements for ownership and removal of the equipment seem not to have been agreed upon prior to or during the demonstration. The resolution of this question for Alaska may be indicative of other topics which remain to be explored after the demonstration has ended.

INNOVATION STAGE: OPERATIONS

The Effect of Demonstrations on Participating Organizations

An effect of demonstrations is to stimulate growth of organizations and to influence the direction of their growth. The following facts about the Office of Telecommunications are illustrative of ESCD impact in this dimension:

- The ESCD contract allowed OT to develop expertise in managing and operating large scale communications systems;
- The ESCD contract allowed OT to hire personnel;
- The ESCD contract gave OT access to resources and allowed them to build a broadcast studio;
- The ESCD contract may have allowed OT to develop an image among Alaskans as a manager and operator of large scale communications systems. (An alternative image might be merely that of a policy issuing office.)

The last is of course the most important, as it may be of enduring effect. That is, we can expect OT to tend to "live up" to its image as a telecommunications program operator.